FUNAI

SERVICE MANUAL

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- Specifications
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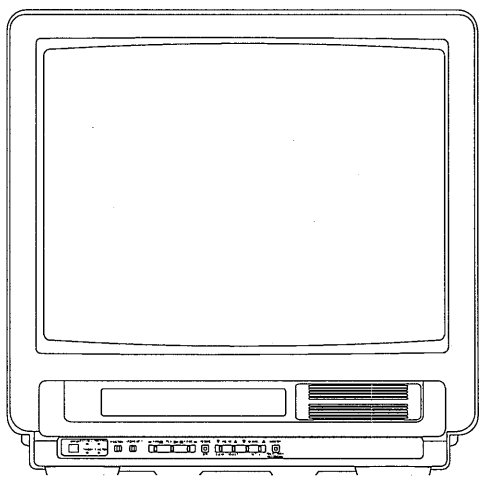
20" COLOR TV / VCR COMBINATION

THIS SERVICE MANUAL IS APPLIED TO THE UNIT WITH FOLLOWING SERIAL NUMBER Q07510001~Q07510669 AND WITH SUFFIX NUMBER "H" IN THE SERIAL NUMBER LABEL.

TVCR200

HYPER



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

20" COLOR TV / VCR COMBINATION

TVCR200

Sec. 1: Main Section
Specifications
Operating Instructions
Adjustment Procedures
Schematic Diagrams
P.C. Boards
Exploded Views

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GENERAL SPECIFICATIONS *

SPECIFICATIONS

<TV Section>

Picture Tube:	20" (Tinted)
Color System:	PAL-B/G,SECAM-B/G,DK
Tuning System:	Voltage Synthsized
Receiving Channels:	[AIR][CATV] VHF L..... R1~R5 E2~E4(X~S3) VHF H.....R6~R12 E5~E12(S4~S32) UHF .....21~69 (S33~S41)
Antenna Impedance:	VHF/UHF 75Ω, Unbalanced
Speaker:	90 x 50 mm Oval Type, 8Ω
Audio output power:	0.9W (10% THD)
Other:	Automatic Channel Preset Picture Mode Selector (Normal, Rental and Soft View) Auto Shut Off

<VCR Section>

Video Signal:	PAL/MESECAM NTSC 4.43(Playback Only)
Recording System:	2 Head Helical Scanning VHS HQ System
Loading System:	Front Loading
Tracking System:	Digital Auto Tracking & Manual Control
Audio System:	Normal 1 Audio Track
Tape Format:	Width 1/2", 1 Audio Track
Rec./Play Speed:	1 Speed
Program Rec.:	1 Year 8 Events(Including Today Timer Reccording)
Special Rec.:	OTR (One Touch Recording) Today Timer Recording
Auto Operation Functions:	Auto Power On Auto Power Off Auto Playback Auto Repeat Auto Rewind Auto Eject Power-Off Eject

DISPLAY

OSD: (On Screen Display)	Channel, Volume, Picture Control , Timer Programming, Sleep, VCR Mode,
LED Indicators:	Record (Red), Timer Rec. (Red) Stand-by (Red) Function (Red)

CONTROLS

Front:	Function, Channel Up/Down, Monitor Volume Up/Down, FF/Search, Rew./Search, Play, Record/OTR, Monitor, Stop/Eject Today Timer Recording
Remote Control: (29keys)	Function, Channel Set Up/Down, Monitor Volume Up/Down, 10keys, Menu, Counter Memory, Sleep, Mute, Play, Pause/Still, FF/Search, Rew./Search, Rec., Stop, Add/Delete, Select Eject

JACKS

VHF/UHF Antenna:	75Ω IEC Type
Video In:	BNC Jack 1P
Audio In:	RCA Jack 1P

GENERAL

Power Source:	AC 110~240V, 50Hz AC Auto Voltage
Power Consumption:	90W
Cabinet Size:	482(W)×477(H) ×455(D) mm
Weight:	20kg
Regulations:	IEC 65
Accessories:	Remote Control Unit Battery R6(UM-3)×2 UHF/VHF Mono Pole Antenna Owner's Manual

*** Specifications are subject to change without notice.**

PERFORMANCE SPECIFICATIONS

* Mode -------- SP mode
* Test input terminal
  <Except Tuner> ---------- Video input (1Vp-p)
  Audio input (-10dBs)
  <Tuner> ---------- Ant. input (80dBμV) Video: 87.5% MOD.
  Audio: 50KHz dev (1KHz)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	—
2. Linearity	Horizontal	%	—	10
	Vertical	%	—	10
3. High Voltage	—	KV	26	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.4
	Corner	m/m	—	2.0
	Side	m/m	—	1.5
2. Contrast Control Range	—	dB	6	4
3. Brightness	APL 100%	ft-L	35	25
4. Color Temperature	—	K	8000-20MPCD	—

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P)	Line	230	200
2. Jitter (Low)	(R/P)	μS	0.05	0.2
3. S/N Chroma AM (SP)	(R/P)	dB	38	33
PM (SP)	(R/P)	dB	36	33
4. Wow & Flutter (RMS)	(R/P)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N	—	dB	40	35
2. Audio S/N (W/LPF)	—	dB	43	40

<AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power(10%DIST.)	(R/P)	W	0.9	0.7
2. Audio S/N (W/LPF)	(R/P)	dB	42	38
3. Audio Distortion (W/LPF)	(R/P)	%	3.0	5.0
4. Audio Freq. Response	200Hz (R/P)	dB	-2.0	-2.0 ± 5.0
(-20dB Ref. 1KHz)	6KHz (R/P)	dB	0	0 ± 6.0

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

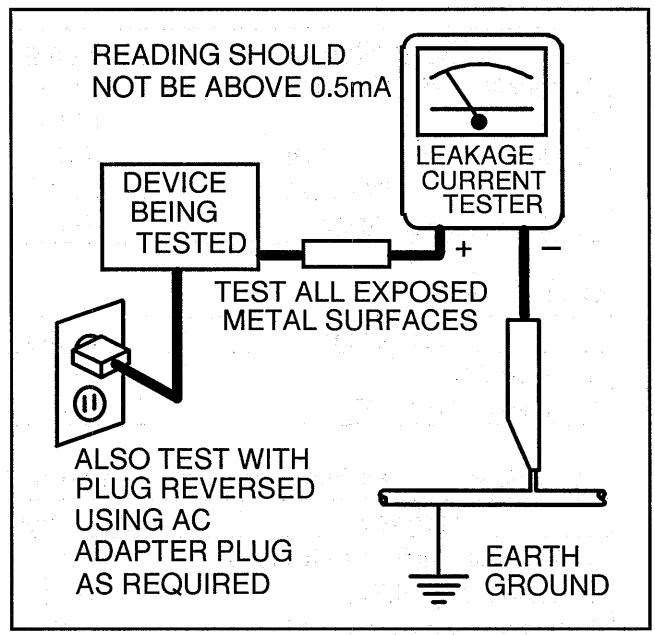
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

   a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

   b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

   c. Antenna Cold Check - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

   d. Leakage Current Hot Check - With the instrument completely reassembled, plug the AC line cord directly into a AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester. With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. **X-Radiation and High Voltage Limits -** Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. **Hot Chassis Warning -**
a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, *remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
b. Some TV receiver chassis have a circuit which obtain voltage about 70% of AC voltage between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
Note: * In case unit has no polarity AC plug only.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual

inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.(In Australia 5-6kg)

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets. etc.) do not remain inside the set.

K. Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

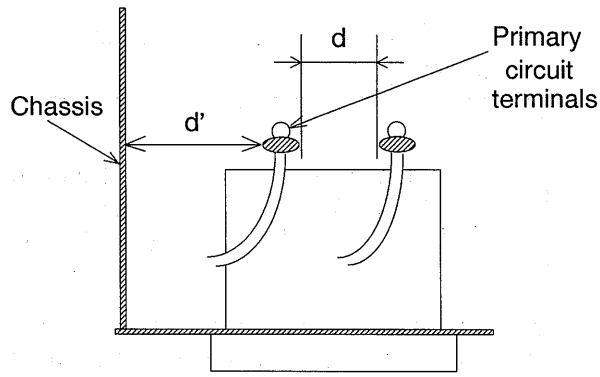


Fig. 1

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
200 to 240 V	Europe Australia	≥ 4mm (d) ≥ 6mm (d')

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

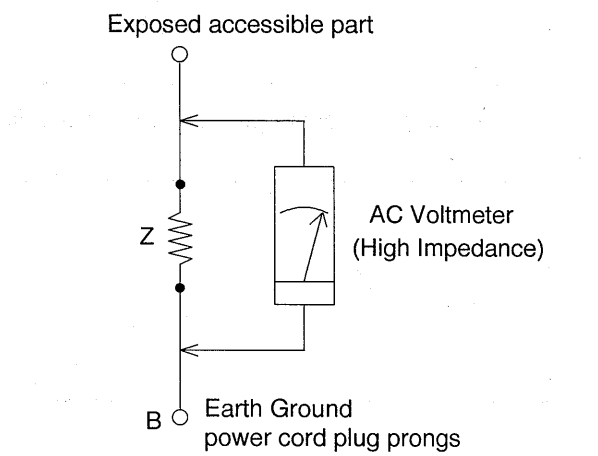


Fig. 2

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

Table 2 : Leakage current ratings for selected areas

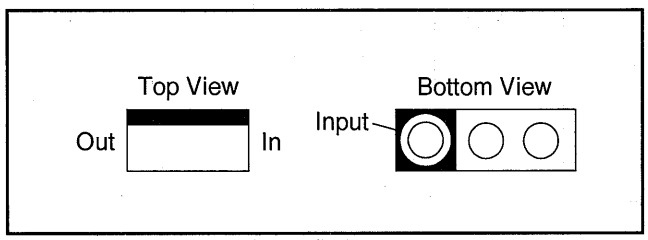
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
200 to 240 V	Europe Australia	2kΩ RES. in connected	i≤0.7mA rms i≤2mA dc	Antenna terminals
		50kΩ RES. in connected	i≤0.7mA rms i≤2mA dc	Other terminals

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

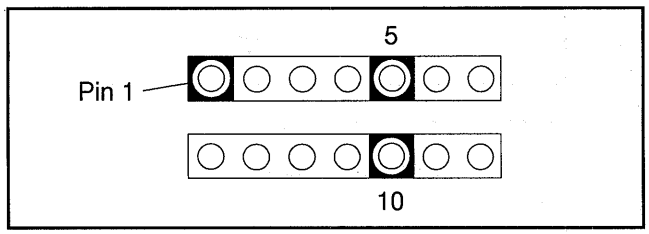
STANDARD NOTES FOR SERVICING

Circuit Board Indications

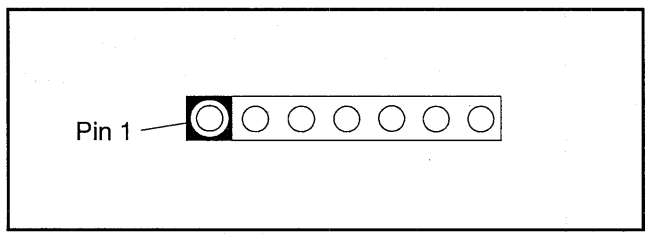
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin are indicated as shown:

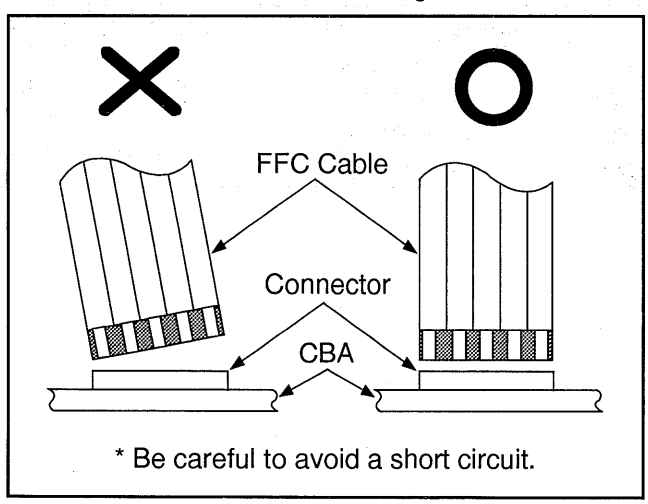


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.

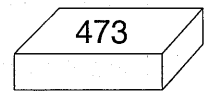


[CBA= Circuit Board Assembly]

How to Read the Values of the Rectangular Type Chip Components

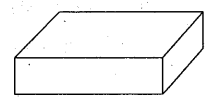
Example:

(a) Resistor



= 473 = 47 [kΩ] (Top View)

(b) Capacitor



= Not Shown (Top View)

Caution:

Once chip parts (Resistors, Capacitors, Transistors, etc.) are removed, they must not be reused. Always use a new part.

Replacement Procedures for Leadless (Chip) Components

The Following Procedures are Recommended for the Replacement of the Leadless Components Used in this Unit.

1. Preparation for replacement

a. Soldering Iron
Use a pencil-type soldering iron (less than 30 watts).

b. Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time
Do not apply heat for more than 4 seconds.

d. Preheating
Leadless capacitor must be preheated before installation. (130°C~150°C, for about two minutes.)

Notes:

a. Leadless components must not be reused after removal.

b. Excessive mechanical stress and rubbing for the component electrode must be avoided.

2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes has melted, remove leadless component with a twisting motion.

Notes:

a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by the twisting action.

b. Take care not to break the copper foil on the printed board.

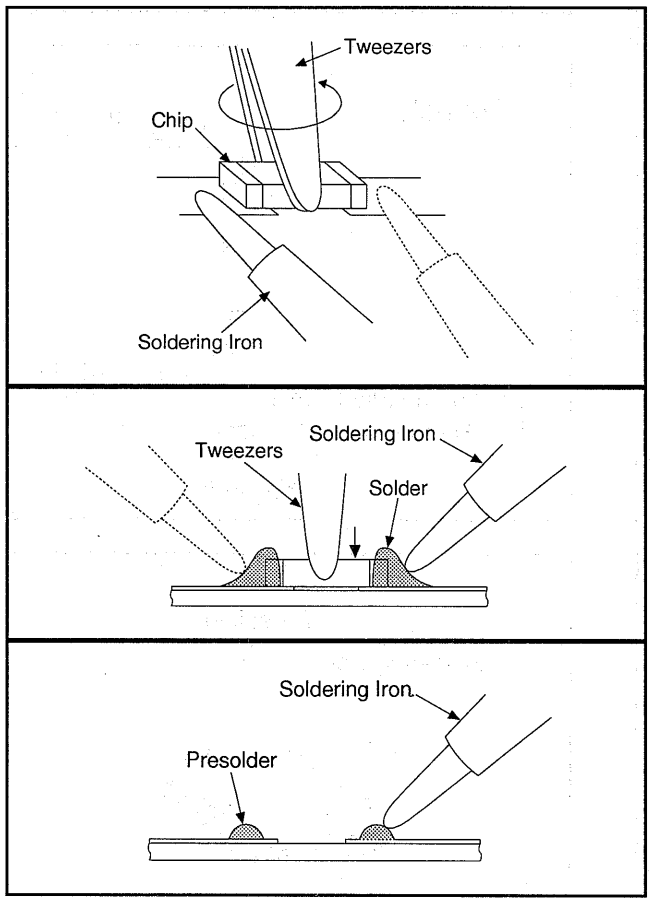
3. Installing the leadless component

a. Presolder the contact points of the circuit board.

b. Press the part downward with tweezers and solder both electrodes as shown below.

Note:

Do not glue the replacement leadless component to the circuit board.



How to Remove / Install Flat Pack IC

Caution:

1. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)

b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack- IC (See Fig. S-1-7).

c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.

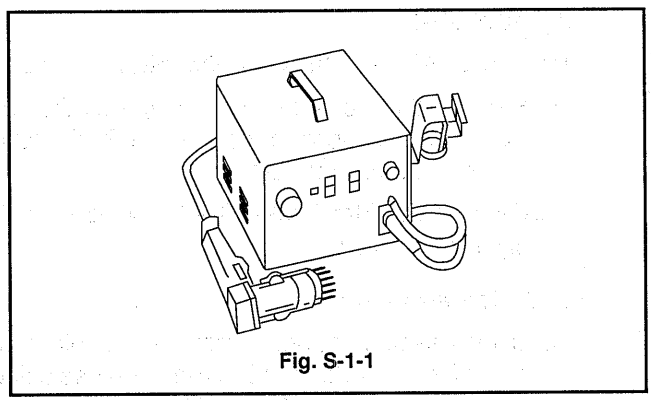


Fig. S-1-1

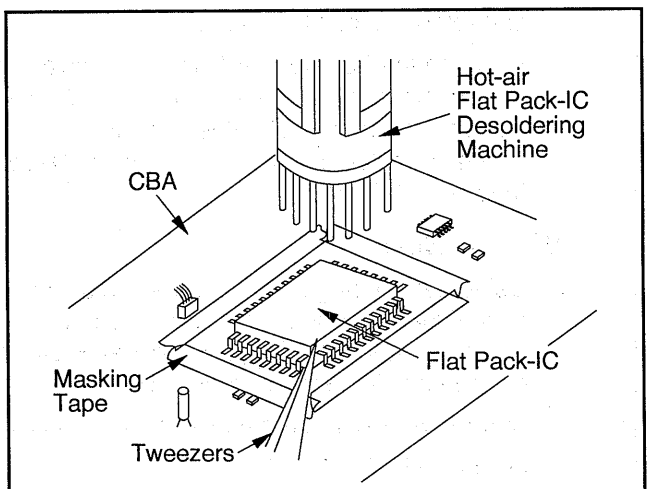


Fig. S-1-2

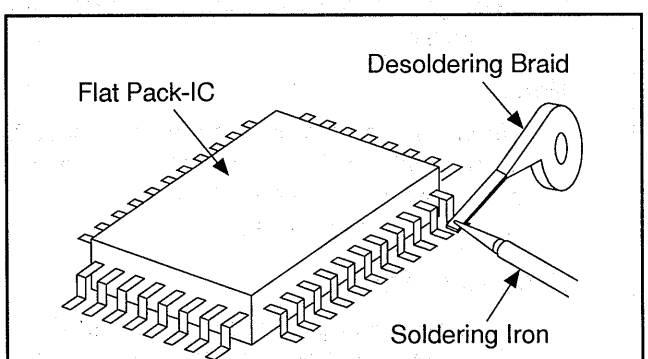


Fig. S-1-3

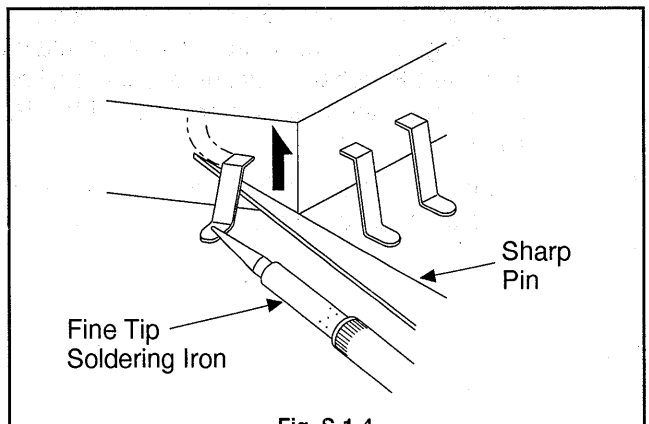


Fig. S-1-4

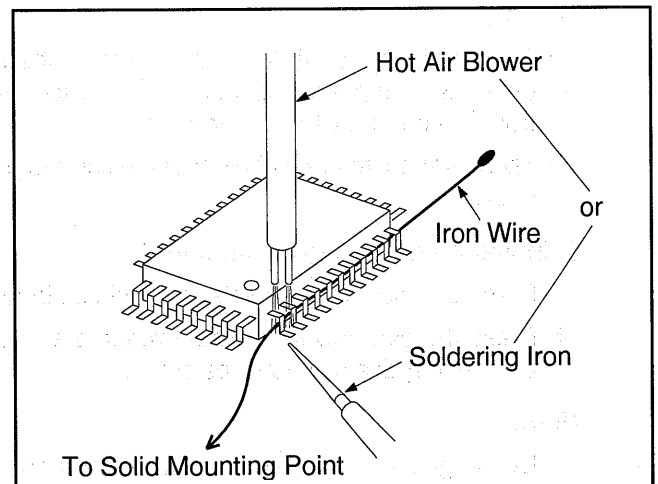


Fig. S-1-5

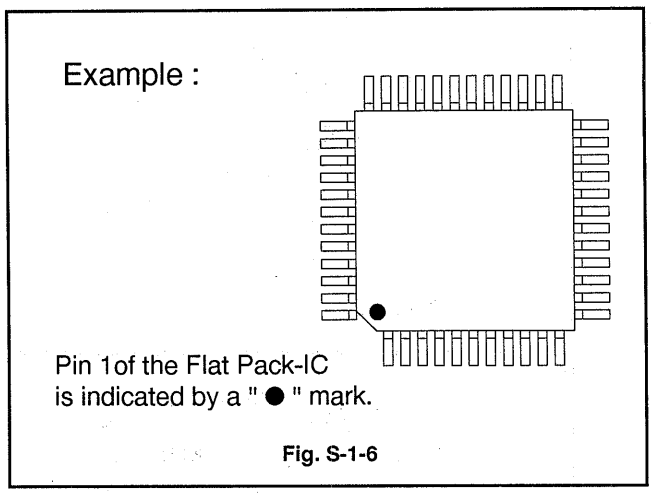


Fig. S-1-6

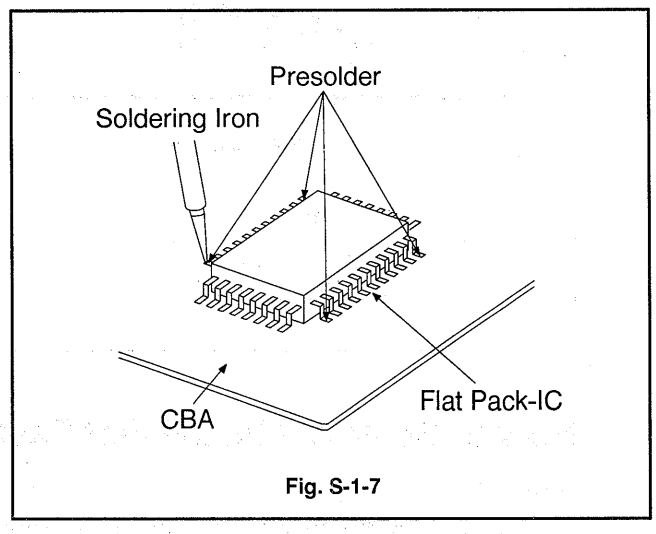


Fig. S-1-7

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

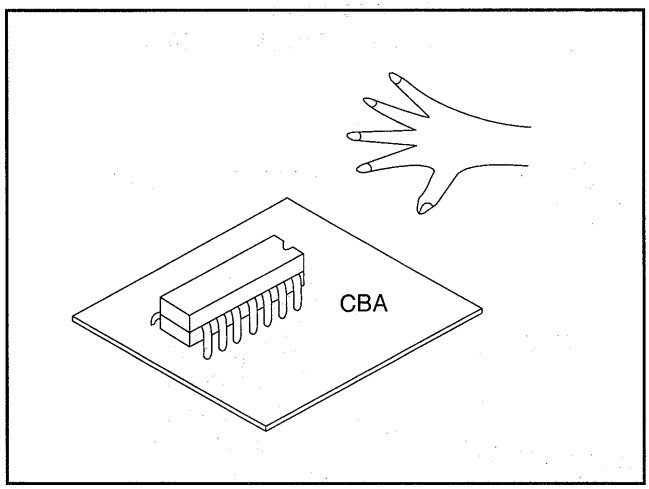
Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

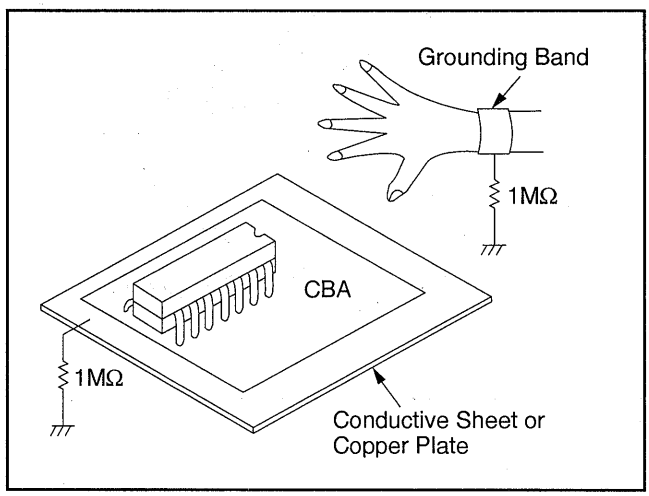
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

Incorrect



Correct



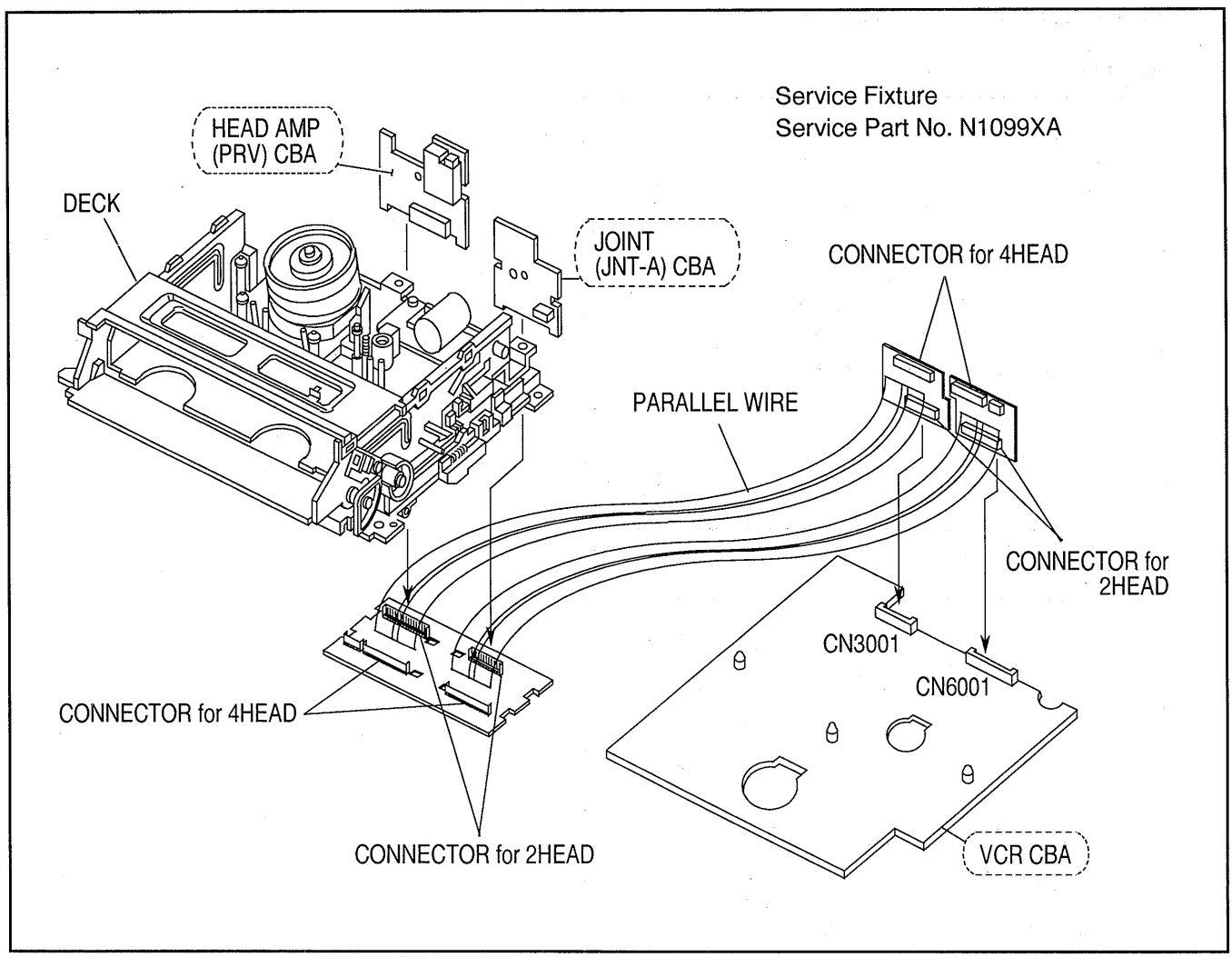
PREPARATION FOR SERVICING

How to Use Service Fixture

(1) Remove Deck Mechanism Assembly.
If needed, remove VCR CBA from chassis.
(2) Connect Deck Mechanism Assembly and VCR CBA by using the deck extension cable.

Note:

The service fixture can be used for both 4-head models and 2-head models.
Be sure to use correct connectors as specified.



How to Enter the Service Mode

Caution: 1

- An optical sensor system is used for the Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service: Otherwise, the unit may operate unexpectedly.

Preparing: 1

- Cover Q6003 (START SENSOR) and Q6004 (END SENSOR) with Insulation Tape or enter the service mode pressing key No.6 on the Remote control unit. (Sensor Inhibition)
  Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

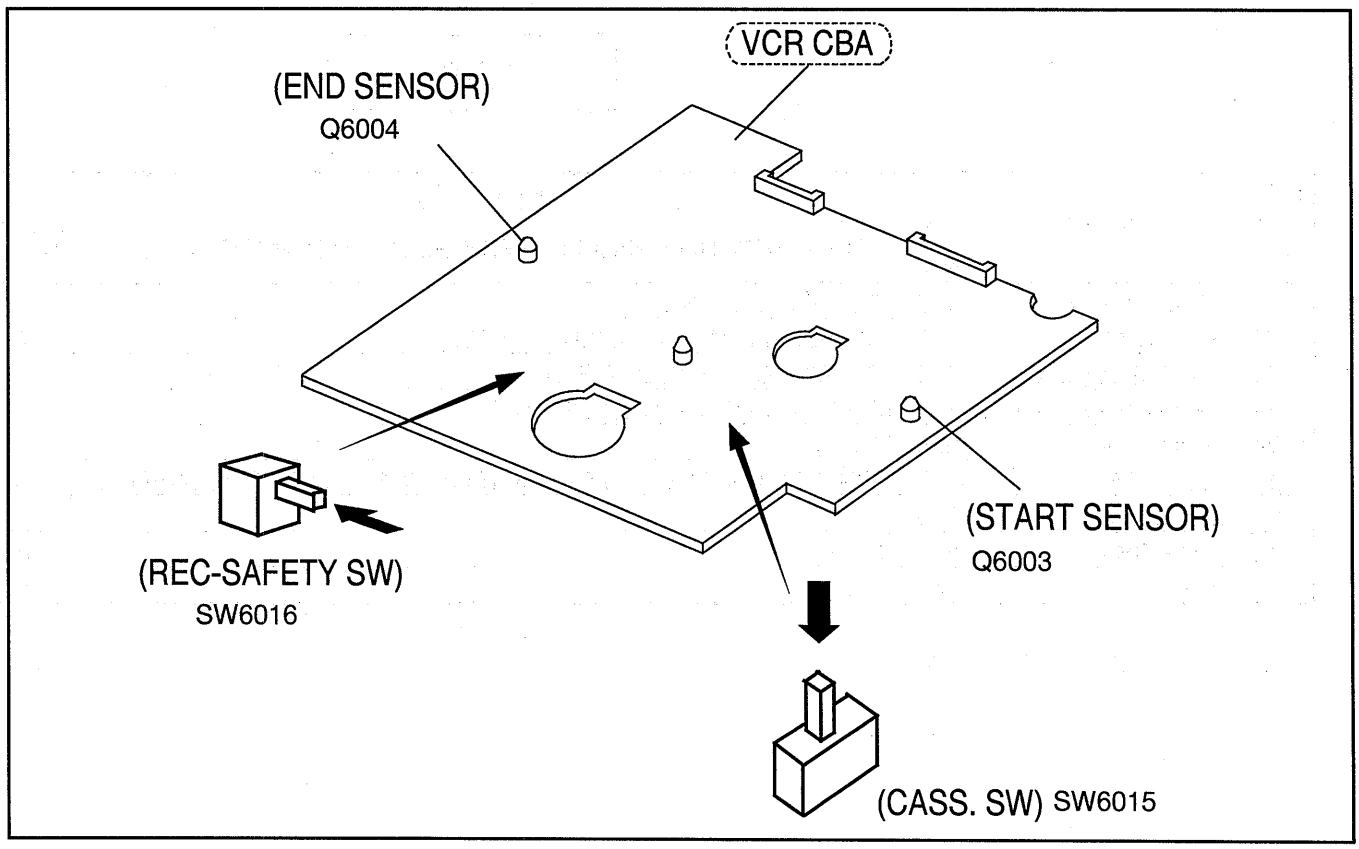
- Disconnect the AC plug from the AC power outlet.
- Connect Pin 19 of IC6202 to ground, connect the AC plug to the AC power outlet and then power on.
- Letter "F" appears on the screen.
- Press key No.2 on the Remote control unit for Cut-off adjustment.
  Note: In the Service Mode, the TV screen will show only a Horizontal line.
- Press key No.6 on the Remote control unit for Sensor Inhibition.

Caution: 2

- The deck mechanism assembly is mounted on the VCR CBA directly, and CASS. SW (SW6015) and REC-SAFETY SW (SW6016) are mounted on the VCR CBA. When deck mechanism assembly is removed from the VCR CBA during to servicing, these switches can not be operated automatically.

Preparing: 2

- To insert or eject the tape, press the CASS.SW (SW6015) manually on the VCR CBA.
- When you want to record, press the Rec Button while depressing the REC-SAFETY SW (SW6016) on the VCR CBA.



DISASSEMBLY INSTRUCTIONS

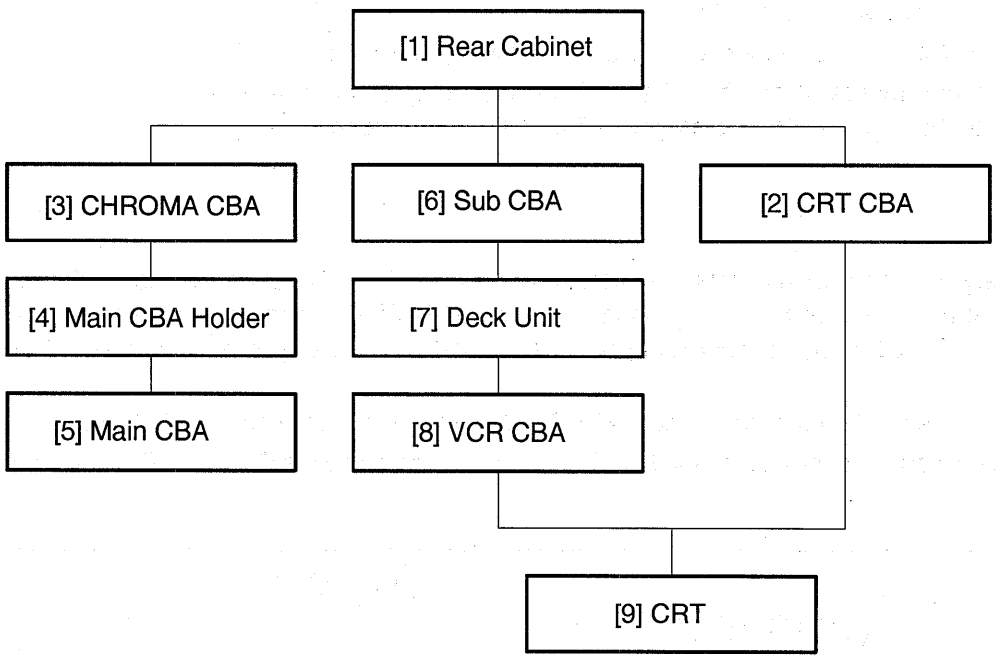
1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

2. Disassembly Method



STEP /LOC. NO.	PART	REMOVAL		
		FIG. NO.	REMOVE/*UNLOCK/RELEASE/UNPLUG/UNCLAMP/DESOLDER	NOTE
[1]	Rear Cabinet	1, 2	7(S-1), 2(S-2), (S-3)	1
[2]	CRT CBA	4, 5	CRT Ground Wire (CN8001, CN9002)	2
[3]	CHROMA CBA	3, 5	CN8001, CBA Holder, 2(S-8)	3
[4]	Main CBA Holder	3, 5	CN7201, CN6201, CN6202), (S-4)	4
[5]	Main CBA	3, 5	3(L-1)	5
[6]	Sub CBA	3, 5	(CN6201, CN6202, CN1501, CN1002, CN1001, CN4253, CN9001)	6
[7]	Deck Unit	3, 5		7
[8]	VCR CBA	3, 5	5(S-6)	8
[9]	CRT	4	4(S-7)	9

① ② ③ ④ ⑤

Note:

①. Order of steps in Procedure. When reassembling, follow the steps in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.

②. Parts to be removed or installed.

③. Fig. No. showing Procedure of Part Location

④. Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder
2(S-2) = two Screw (S-2)

⑤. Refer to the following"Reference Notes in the Table" following.

Reference Notes in the Table

1. Remove 7 Screws (S-1), 2 Screws (S-2) and Screw (S-3)

Caution !!: Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

2. If not already removed, first remove the Rear Cabinet. Remove CRT Ground Wire on the CRT CBA, then pull the CRT CBA backward.
3. If not already removed, first remove the Rear Cabinet. Remove 2(S-8) and CBA Holder. Remove CN8001 then lift up the CHROMA CBA.
4. If not already removed, first remove the Rear Cabinet. Remove (S-4) and Connectors (CN7201, CN6201,CN6202). Pull the Main CBA Holder backward.
5. If not already removed, first remove the Rear Cabinet and remove Main CBA Holder. Release 3(L-1) Locking Tabs. Lift up the Main CBA. Caution Locking Tabs (L-1) are fragile. Be careful not to break them.
6. If not already removed, first remove the Rear Cabinet. Disconnect the connectors (CN6201, CN6202, CN9001, CN4253, CN1001, CN1501). Pull the Sub CBA Backward.
7. If not already removed, first remove the Rear Cabinet and remove Main CBA Holder.Remove (S-5) and Pull up the Deck unit.
8. If not already removed, first remove the Rear Cabinet and Pull the Deck unit Backward. Remove 3 Screws (S-6), then lift up the VCR CBA.
9. If not already removed, first remove the Rear Cabinet. Remove 4 Screws (S-7), then remove the CRT.

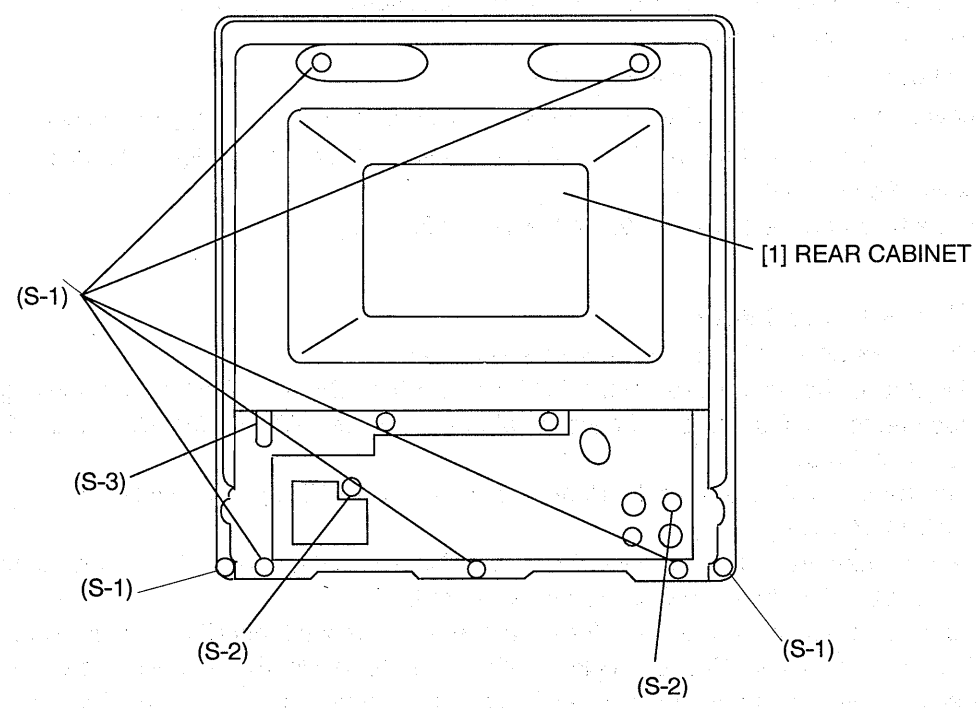


Fig. 1

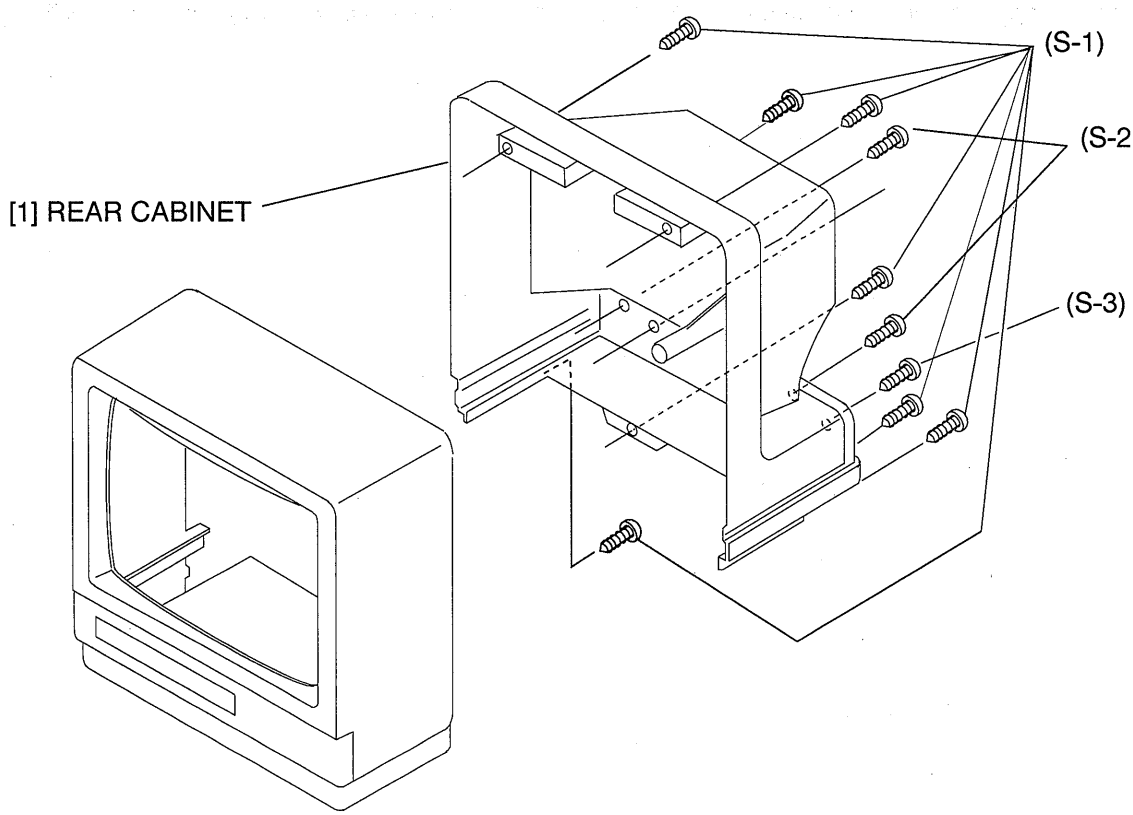


Fig. 2

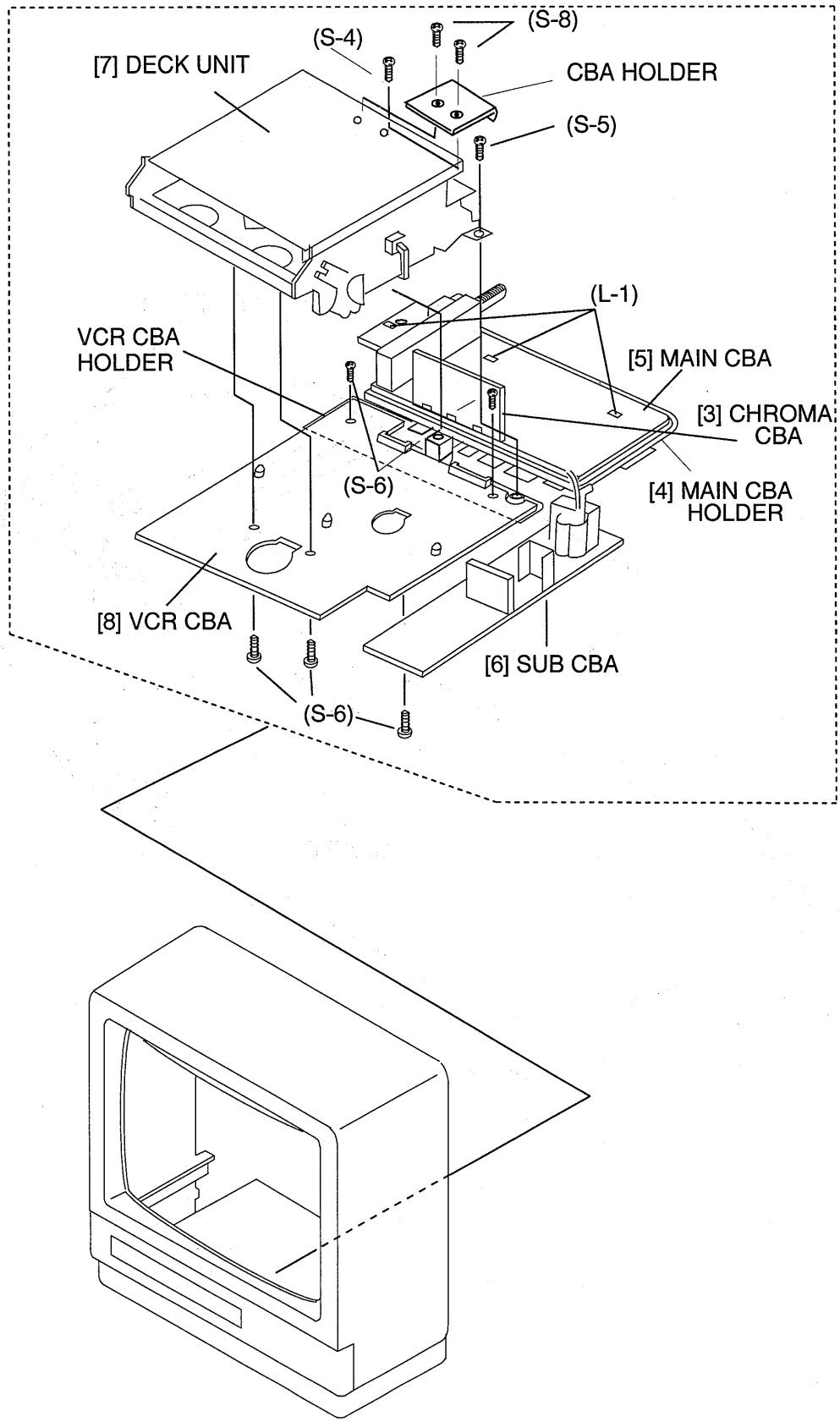

(S-4)
(S-8)
[7] DECK UNIT
CBA HOLDER
(S-5)
(L-1)
VCR CBA
HOLDER
[5] MAIN CBA
[3] CHROMA
CBA
(S-6)
[4] MAIN CBA
HOLDER
[8] VCR CBA
[6] SUB CBA
(S-6)

Fig. 3

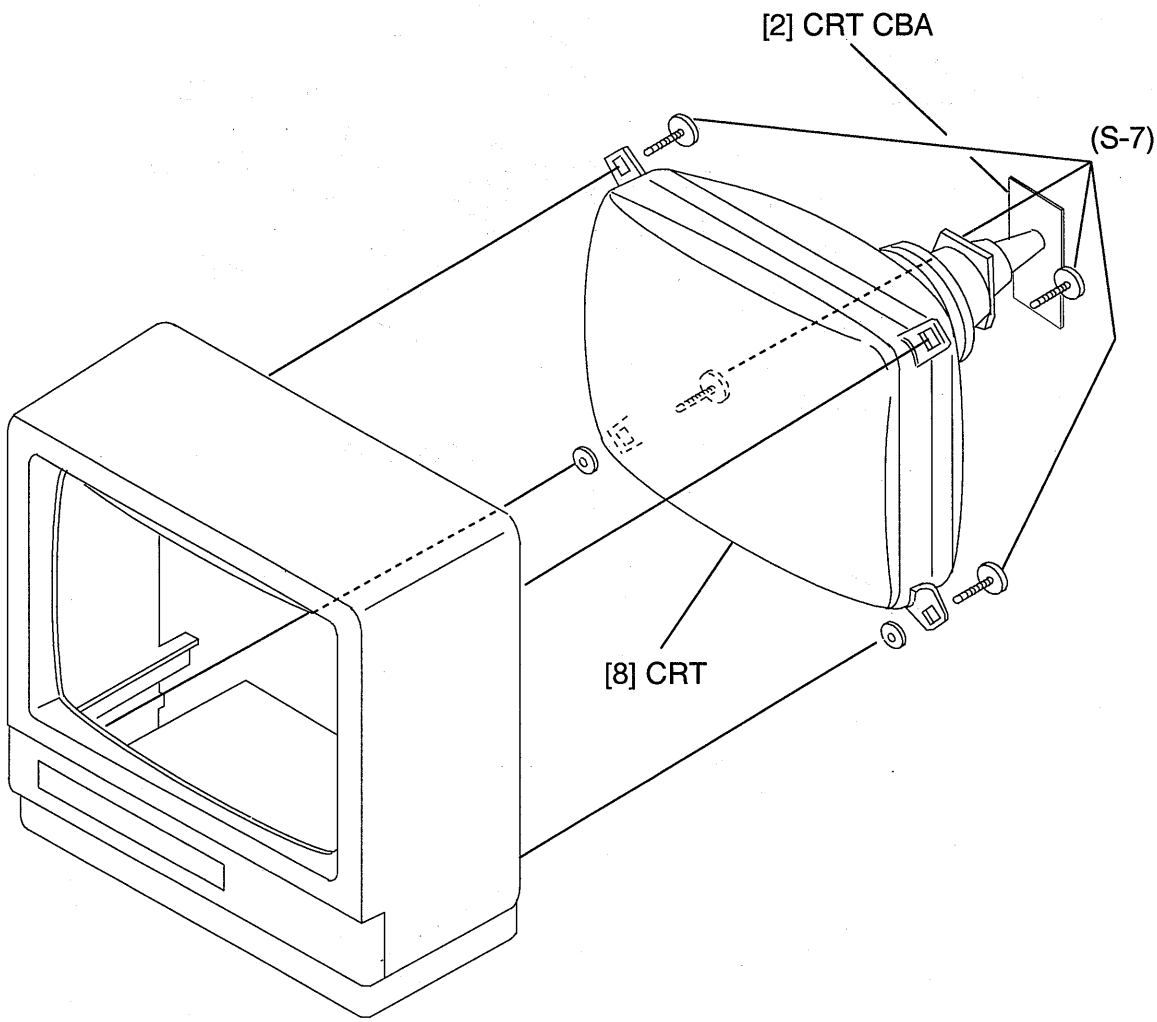


Fig. 4

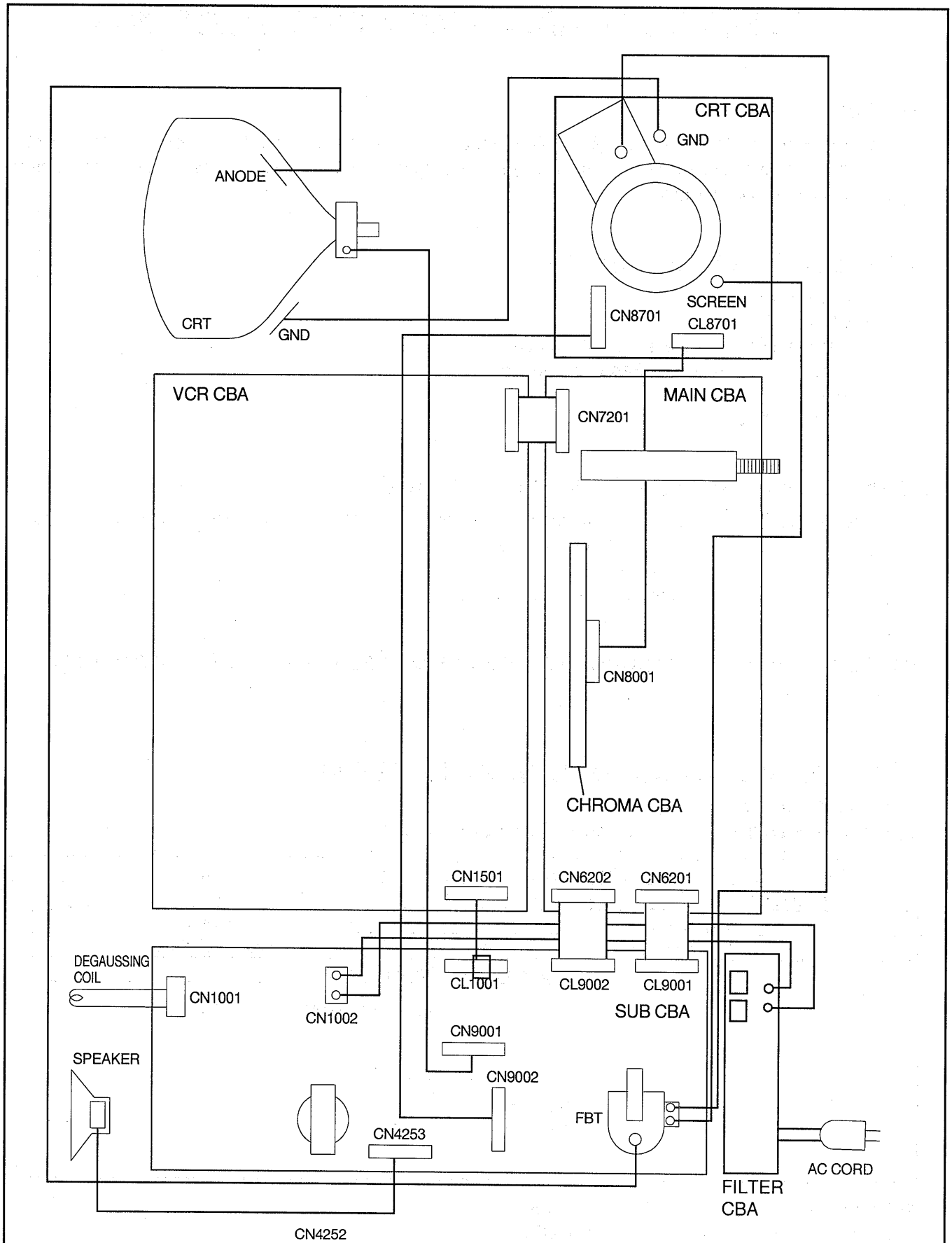

CRT CBA
GND
ANODE
SCREEN
CN8701
CL8701
CRT
GND
VCR CBA
MAIN CBA
CN7201
CN8001
CHROMA CBA
CN1501
CN6202
CN6201
DEGAUSSING COIL
CN1001
CN1002
CL1001
CL9002
CL9001
SUB CBA
CN9001
SPEAKER
CN9002
FBT
CN4253
AC CORD
FILTER CBA
CN4252

Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

NOTE:

Electrical adjustments are required after replacing circuit components. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

TEST EQUIPMENT REQUIRED:

1. IF Sweeper
2. DC Volt Meter
3. Oscilloscope: Dual Trace with 10:1 probe
4. PAL, SECAM and NTSC Pattern Generator
5. Monoscope
6. Color Analyzer

HOW TO SET UP THE ADJUSTMENT MODE:

Preset Mode: Press picture select button on the remote control unit, then press the number "1" button.

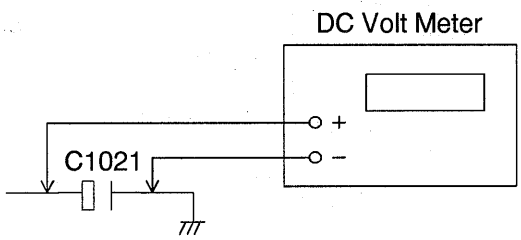
Brightness -------- Center
Color ---------- Center
Contrast ---------- Center

All adjustment procedures must be performed in order of numberring.

1. POWER SUPPLY DC VOLTAGE ADJUSTMENT

Purpose: To get correct voltage.
Symptom of Misadjustment: If voltage is incorrect, picture is dark.

Test Point	Adjustment Point	Input
C1021	VR1001	---
Equipment		**Spec.**
DC Volt Meter		DC +112±0.5V
Connections of Equipment		



Reference Notes: C1021, VR1001 --- Sub CBA

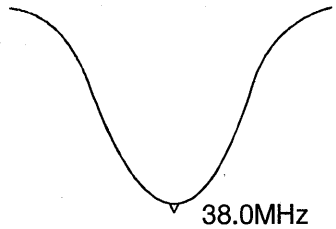
1. To inactivate FBT, ground the base of Q9002.
2. Connect both terminal of C1021by 1KΩ (60W~80W).
3. Connect the equipment as shown in the above table.
4. Adjust VR1001 for reading +112±0.5V on the DC Volt Meter.

2. 38.0MHz PEAK ADJUSTMENT (for TUNER)

Purpose: To adjust PIF (Picture Intermediate Frequency).
Symptom of Misadjustment: Beat may appear on the picture and buzz may sound.

Test Point	Adjustment Point	Input
TP7204, TP7205, TP7206 TP7201 (GND)	L7202	---
Equipment		**Spec.**
IF Sweeper, Oscilloscope		See below

Figure



Reference Notes: TP7201, TP7204, TP7205, TP7206, L7202 --- Main CBA

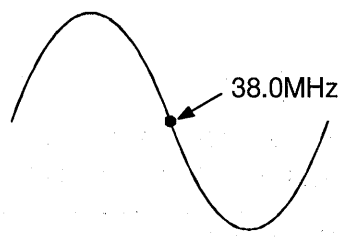
1. Connect Output of sweeper to TP7205.
   Frequency set of sweeper are below:
   (1) 31.5MHz (2) 32.4MHz (3) 33.57MHz (4) 35.8MHz (5) 38.0MHz (6) 39.45MHz
2. Connect the oscilloscope to TP7204.
3. Connect resistor (27KΩ 1/6W) between TP7206 and TP7201 (as the wave of oscilloscope not to clip.)
4. Adjust L7202 as the marker for 38.0MHz to be peak.

3. AFT CURVE ADJUSTMENT (for TUNER)

Purpose: To operate AFT correctly.
Symptom of Misadjustment: AFT does not work correctly and/or synchronism will be faulty.

Test Point	Adjustment Point	Input
TP7202, TP7205, TP7206 TP7201 (GND)	L7201	---
Equipment		**Spec.**
IF Sweeper, Oscilloscope		See below

Figure



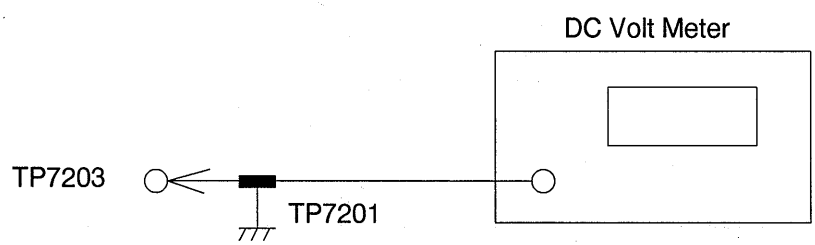
Reference Notes: TP7201, TP7202, TP7205, TP7206, L7201--- Main CBA

1. Connect output of sweeper to TP7205.
   Frequency set is the same as for 38.0MHz Peak Adjustment.
2. Connect the oscilloscope to TP7202.
3. Connect resistor (27KΩ 1/6W) between TP7206 and TP7201 (as the wave of oscilloscope not to clip.)
4. Adjust L7201 as the marker for 38.0MHz to the center of AFT curve.

4. RF AGC ADJUSTMENT (for TUNER)

Purpose: Set AGC (Auto Gain Control) Level.
Symptom of Misadjustment: AGC does not synchronize correctly when RF Input Level is weak and distortion may cause on the picture when it is strong.

Test Point	Adjustment Point	Input
TP7203 TP7201 (GND)	VR7201	PAL Color Bar
Equipment		**Spec.**
PAL Pattern Generator, DC Volt Meter		DC +4.0±0.1V
Connections of Equipment		



Reference Notes: TP7201, TP7203, VR7201 --- Main CBA

1. Receive the PAL Color Bar signal for 2ch (48.25MHz). (RF input level 80dBμV at the best syncronized point)
2. Connect the equipment as shown in the above table.
3. Adjust VR7201 for reading +4.0±0.1V on the DC Volt Meter.

5. V. SIZE ADJUSTMENT

Purpose: To get correct vertical size of screen image.
Symptom of Misadjustment: Vertical size of screen image may not be properly displayed.

Test Point	Adjustment Point	Input
Screen	VR8002	Monoscopic Pattern
Equipment		**Spec.**
Monoscope		90±5%

Reference Note: VR8002 --- Chroma CBA

1. Operate the unit more than 20 minutes.
2. Input the Monoscopic Pattern.
3. Adjust VR8002 so that the vertical size will be 90±5% of Monoscopic Pattern and the circle is round.

6. H. POSITION ADJUSTMENT

Purpose: To get correct horizontal position of screen image.
Symptom of Misadjustment: Horizontal position of screen image may not be properly displayed.

Test Point	Adjustment Point	Input
Screen	VR8001	Monoscopic Pattern
Equipment		**Spec.**
Monoscope		---

Reference Note: VR8001 --- Chroma CBA

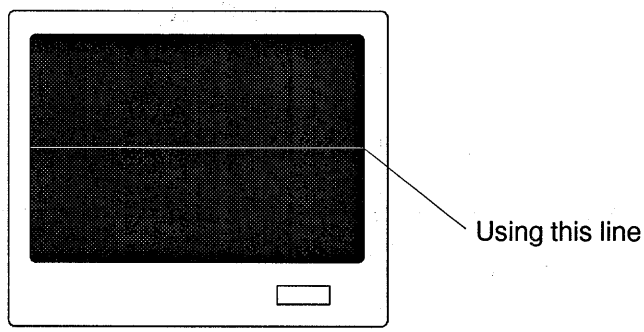
1. Operate the unit more than 20 minutes.
2. Input the Monoscopic Pattern.
3. Adjust VR8001 so that the right and left of Monoscopic Pattern will be equal.

7. CUT OFF ADJUSTMENT

Purpose: To adjust the beam current of R, G, B and screen voltage.
Symptom of Misadjustment: White color may be reddish, greenish or bluish.
When the screen voltage is too high, the scanning line is appeared on the screen.

Test Point	Adjustment Point	Input
Screen	VR8704, VR8705, VR8706 Screen-VR (FBT)	Black Raster
Equipment		Spec.
Pattern Generator		See below

Figure



Reference Notes: VR8701, VR8702, VR8703, VR8704, VR8705, VR8706 --- CRT CBA
Screen-VR --- Sub CBA (FBT)

1. Operate the unit more than 20 minutes.
2. Degauss the CRT using Degaussing Coil.
3. Input the Black Raster.
4. Turn the Screen-VR (FBT) fully counterclockwise.
5. Set VR8702 (B. Drive), VR8703 (R. Drive), VR8704 (B. Cut Off), VR8705 (G. Cut Off), VR8706 (R. Cut Off) and VR8701 (Sub Bright) to center.
6. Enter the Service Mode. (See Page 1-5-2 " How to Enter the Service Mode ").
7. Slowly turn the Screen-VR (FBT) to the point where horizontal line just visible.
8. Adjust VR8704 (Blue), VR8705 (Green) and VR8706 (Red) so that horizontal line becomes pure white.
9. Power unit off and on again to return back to Normal mode.

Note: Confirm that White Balance Adj. is correct after this adjustment, and attempt White Balance Adj. if needed.

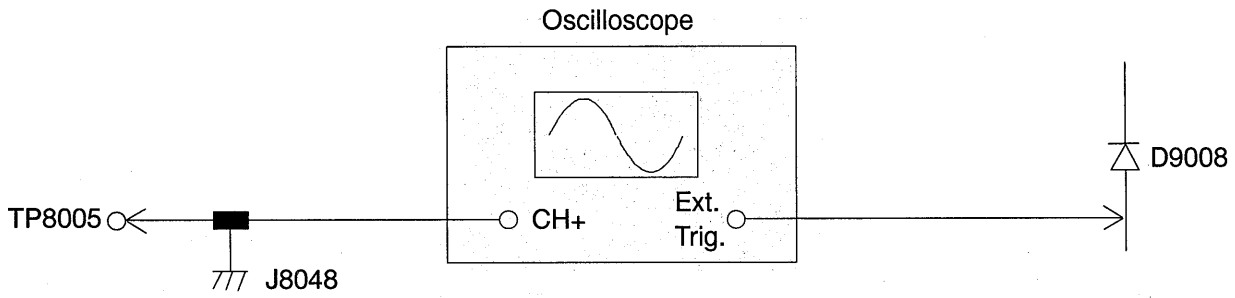
8. 1H DELAY LINE ADJUSTMENT (for PAL)

Purpose: To get correct 1H delay line when the PAL signal is entered.

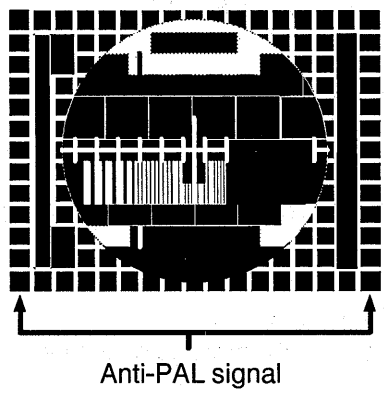
Symptom of Misadjustment: The Anti-PAL signal part is colored when the Philips Pattern is entered.
Each scanning line is colored on the color bar.

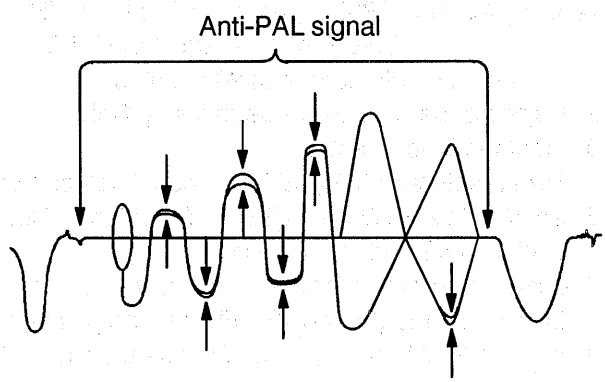
Test Point	Adjustment Point	Input
TP8005 J8048 (GND)	L8007, VR8003	Philips Pattern
Equipment		Spec.
Pattern Generator, Oscilloscope		See below

Connections of Equipment



Figure





Reference Notes: TP8005, J8048, L8007, VR8003 --- Chroma CBA
D9008 --- Sub CBA

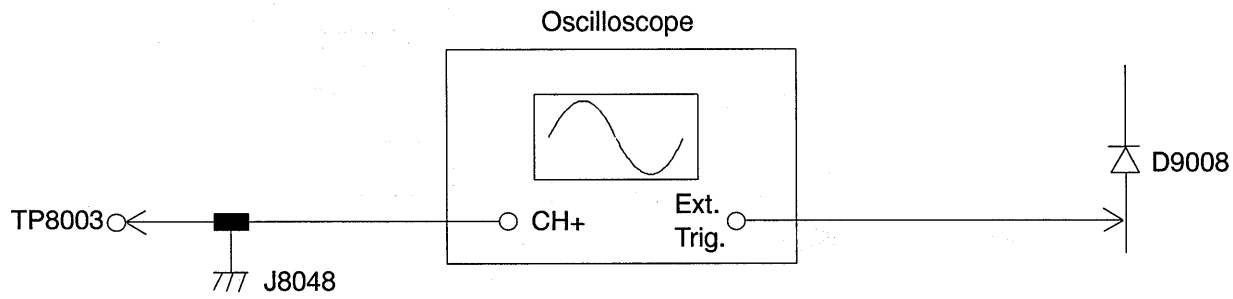
1. Input the Philips Pattern.
2. Connect the equipment as shown in the above table.
3. Adjust VR8003 and L8007 so that the amplitude at Anti-PAL signal part becomes minimum (no color) and the waveform at the color bar part is not seen in double ("Venetian Blind" does not appear at the color bar signal part).

9. BELL FILTER ADJUSTMENT (for SECAM)

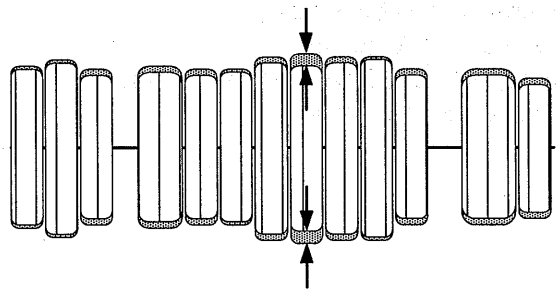
Purpose: To adjust the center frequency of SECAM bell filter.
Symptom of Misadjustment: The color will be reversed when the SECAM signal is entered.

Test Point	Adjustment Point	Input
TP8003 J8048 (GND)	L8005	SECAM Color Bar
Equipment		**Spec.**
SECAM Pattern Generator Oscilloscope (5mV/div, 10μs/div AC)		See below

Connections of Equipment



Figure



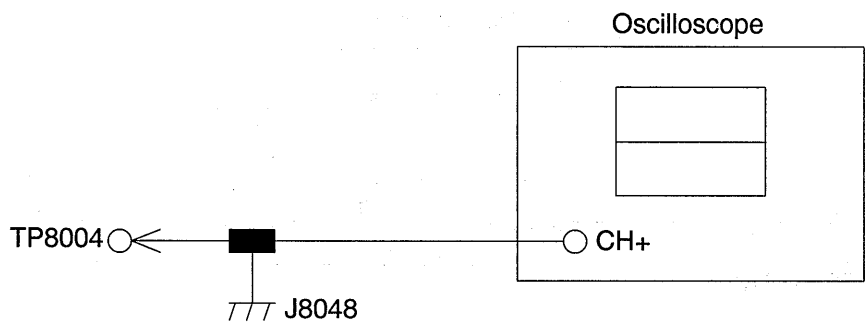
Reference Notes: TP8003, J8048, L8005 --- Chroma CBA
D9008 --- Sub CBA

1. Input the SECAM Color Bar signal.
   The Contrast, Bright and Color control to center.
2. Connect the equipment as shown in the above table.
3. Set oscilloscope to 10 : 1 probe, AC 5mV/div and Range 10μs/div.
4. Adjust L8005 with core driver to flat waveform.

10. IDENT COIL ADJUSTMENT (for SECAM)

Purpose: To adjust the peak value of SECAM IDENT signal.
Symptom of Misadjustment: The display is not colored when the SECAM signal is entered.

Test Point	Adjustment Point	Input
TP8004 J8048 (GND)	L8003	SECAM Color Bar
Equipment		**Spec.**
SECAM Pattern Generator Oscilloscope (0.2V/div, 5μS/div DC)		See below
Connections of Equipment		



Reference Notes: TP8004, J8048, L8003 --- Chroma CBA

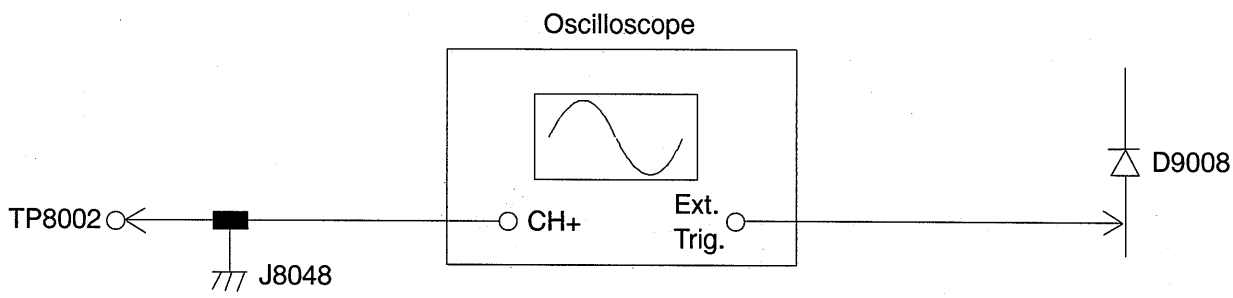
1. Connect the equipment as shown in the above table.
2. Input the SECAM Color Bar signal from Video In.
3. Set oscilloscope to 10 : 1 probe, DC 0.2V/div and Range 5μs/div.
4. Adjust L8003 with core driver to peak DC voltage.

11. R-Y DEMODULATE COIL ADJUSTMENT (for SECAM)

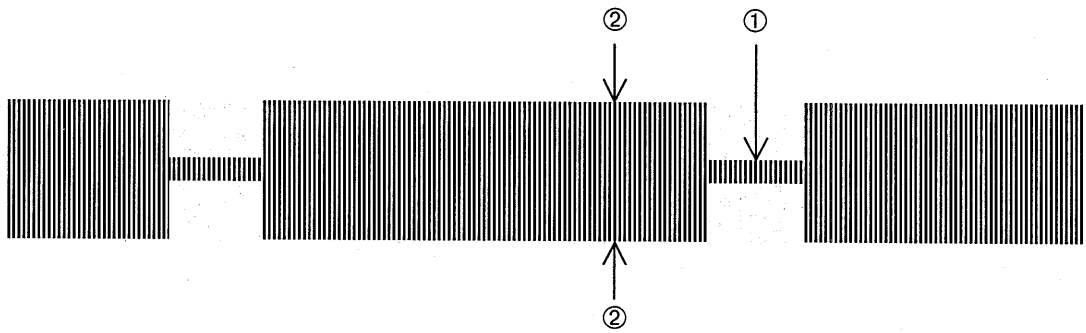
Purpose: To adjust the level of R-Y color difference signal.
Symptom of Misadjustment: The R, G and B will be unbalanced.

Test Point	Adjustment Point	Input
TP8002 J8048 (GND)	L8008	SECAM Black Raster
Equipment		**Spec.**
SECAM Pattern Generator Oscilloscope (20mV/div, 5μs/div AC)		See below

Connections of Equipment



Figure



Reference Notes: TP8002, J8048, L8008 --- Chroma CBA

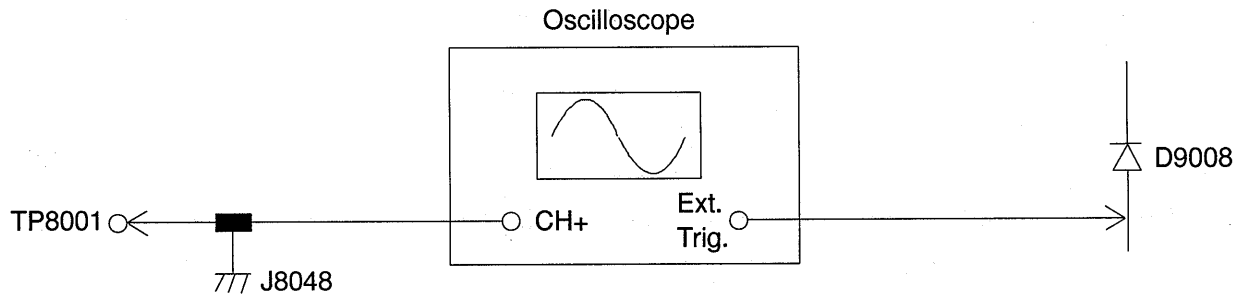
1. Connect the equipment as shown in the above table.
2. Input the SECAM Black Raster.
3. Adjust L8008 with core driver so that ① becomes center of ② as shown in the above table.

12. B-Y DEMODULATE COIL ADJUSTMENT (for SECAM)

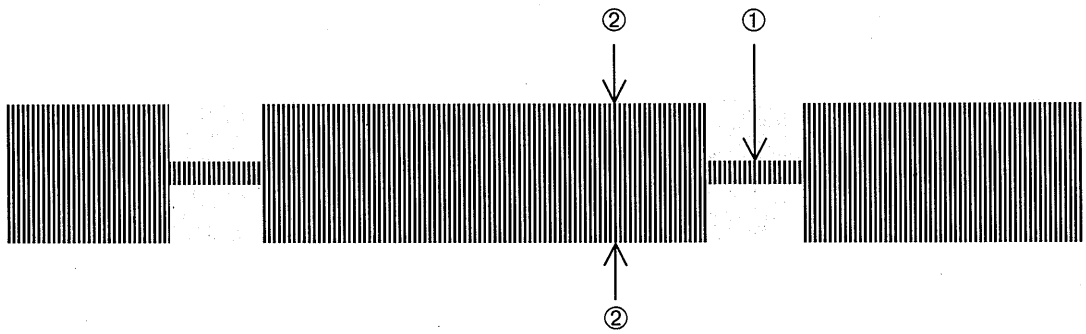
Purpose: To adjust the level of B-Y color difference signal.
Symptom of Misadjustment: The R, G and B will be unbalanced.

Test Point	Adjustment Point	Input
TP8001 J8048 (GND)	L8009	SECAM Black Raster
Equipment		**Spec.**
SECAM Pattern Generator Oscilloscope (20mV/div, 5μs/div AC)		See below

Connections of Equipment



Figure



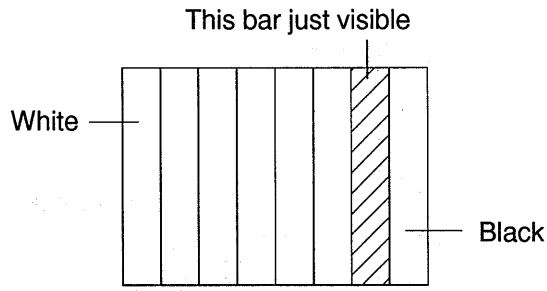
Reference Notes: TP8001, J8048, L8009 --- Chroma CBA

1. Connect the equipment as shown in the above table.
2. Input the SECAM Black Raster.
3. Adjust L8009 with core driver so that ① becomes center of ② as shown in the above table.

13. SUB BRIGHT ADJUSTMENT

Purpose: To get proper brightness.
Symptom of Misadjustment: Proper brightness cannot be obtained by adjusting the Bright Control.

Test Point	Adjustment Point	Input
Screen	VR8701	Gray Scale pattern
Equipment		**Spec.**
Pattern Generator		See below
Figure		



Reference Notes: VR8701 --- CRT CBA

1. Operate the unit more than 20 minutes.
2. Input the 8-step Gray Scale pattern.
3. Adjust VR8701 so that the bar is just visible. (See above figure)

14. FOCUS ADJUSTMENT

Purpose: To get correct focus.
Symptom of Misadjustment: Blurred image is shown on the display.

Test Point	Adjustment Point	Input
Screen	Focus-VR (FBT)	Monoscopic Pattern
Equipment		**Spec.**
Monoscope		See below

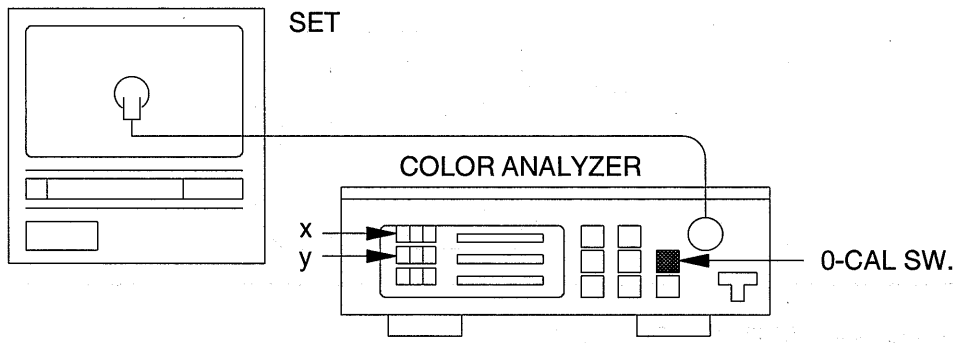
Reference Note: Focus-VR (FBT) --- Sub CBA

1. Operate the unit more than 20 minutes.
2. Input the Monoscopic Pattern.
3. Adjust Focus-VR (FBT) to be obtained clear picture.

15. WHITE BALANCE ADJUSTMENT

Purpose: To mix red, green and blue beams correctly for pure white.
Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adjustment Point	Input
Screen	VR8702, VR8703	White Raster (APL 100%)
Equipment		**Spec.**
Pattern Generator, Color Analyzer		See below
Connections of Equipment		



Reference Notes: VR8702, VR8703 --- CRT CBA

1. Operate the unit more than 20 minutes.
2. Face the unit to east. Degauss the CRT using Degaussing Coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Adjust VR8703 (R. DRIVE) and VR8702 (B. DRIVE) so that the respective chroma temperatures become 8000K-20MPCD (x : 0.300 / y : 0.290) ±4%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

16-1. PAL HEAD SWITCHING POSITION ADJUSTMENT

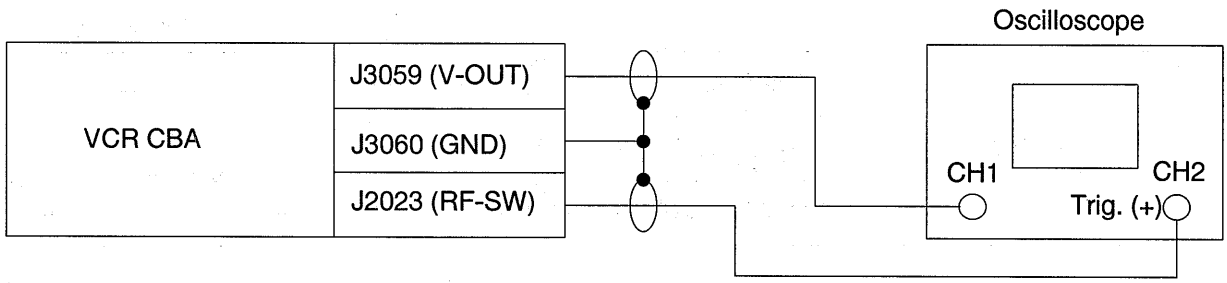
Note: Before attempting the mechanical adjustment, this adjustment must first be completed.

Purpose: To determine the Head Switching point during playback.

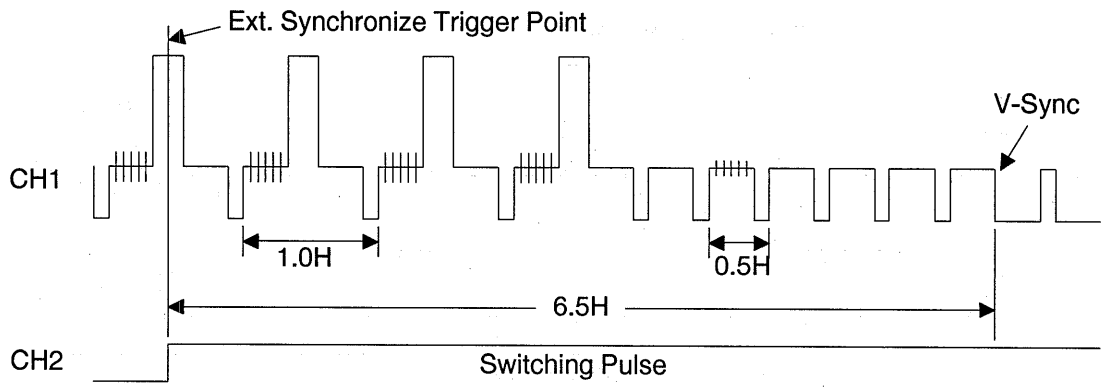
Symptom of Misadjustment: May cause Head Switching noise or Vertical Jitter in the picture.

Test Point	Adjustment Point	Mode	Input
J3059 (V-OUT) J2023 (RF-SW) J3060 (GND)	VR2002 (SW-PAL)	PLAY (SP)	---
Tape	**Equipment**	**Spec.**	
F6-A	Oscilloscope	6.5±1H (416±60µs)	

Connections of Equipment



Figure



Reference Notes: J3059, J2023, J3060, VR2002 : VCR CBA

1. Connect equipment as shown in the above table.
2. Playback test tape and adjust VR2002 so that the V-sync front edge of CH1 video output waveform is delayed 6.5H (416µs) from the rising of CH2 Head Switching pulse waveform.

16-2. NTSC HEAD SWITCHING POSITION ADJUSTMENT

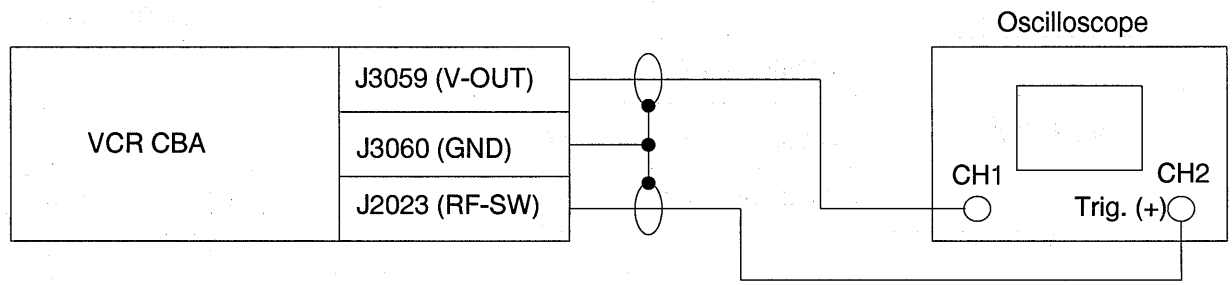
Note: Before attempting the mechanical adjustment, this adjustment must first be completed.

Purpose: To determine the Head Switching point during playback.

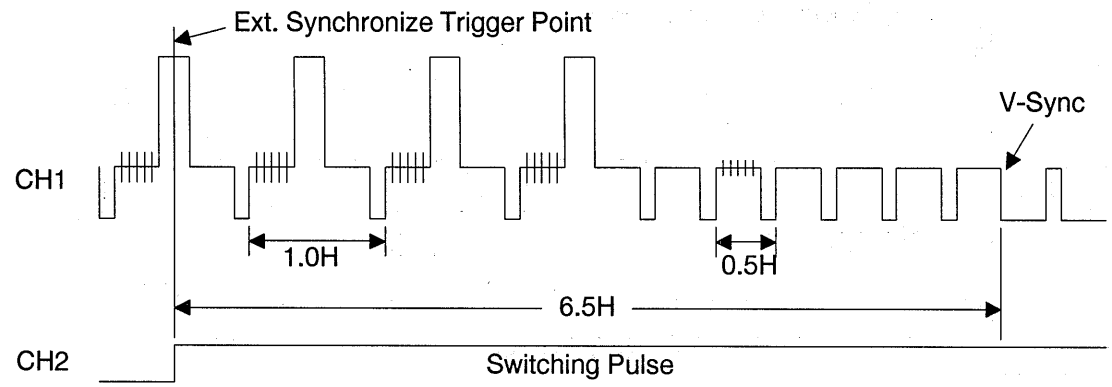
Symptom of Misadjustment: May cause Head Switching noise or Vertical Jitter in the picture.

Test Point	Adjustment Point	Mode	Input
J3059 (V-OUT) J2023 (RF-SW) J3060 (GND)	VR2001 (SW-NTSC)	PLAY (SP)	---
Tape	**Equipment**	**Spec.**	
F8-A	Oscilloscope	6.5±1H (412.7±60 µs)	

Connections of Equipment



Figure



Reference Notes: J3059, J2023, J3060, VR2001 : VCR CBA

1. Connect equipment as shown in the above table.
2. Playback test tape and adjust VR2001 so that the V-sync front edge of CH1 video output waveform is delayed 6.5H (412.7 µs) from the rising of CH2 Head Switching pulse waveform.

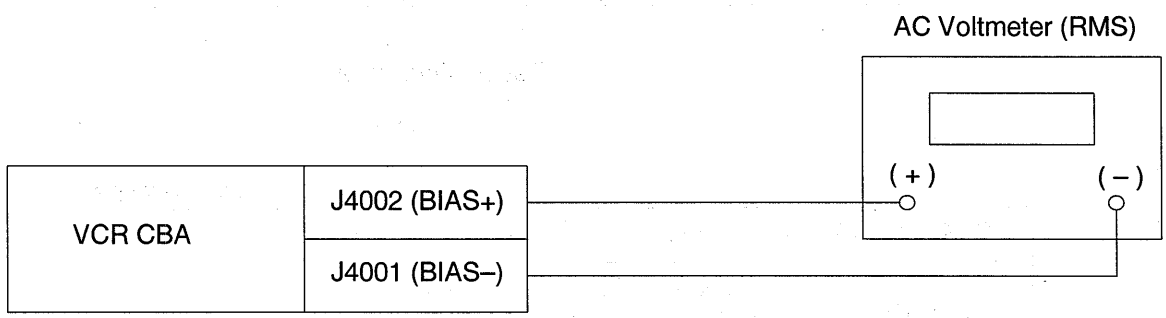
17. AUDIO REC. BIAS CURRENT ADJUSTMENT

Purpose: To set the optimum Record Audio Bias level.

Symptom of Misadjustment: If Audio Bias level is too high, the frequency response deteriorates. If the level is too low, sound distortion may occur.

Test Point	Adjustment Point	Mode	Input
J4002 (BIAS+) J4001 (BIAS–)	VR4001 (BIAS)	REC (SP)	---
Tape	**Equipment**	**Spec.**	
Blank Tape	AC Voltmeter (RMS)	25.0mV RMS	

Connections of Equipment



✳ **Do not enter Input Signal.**

Reference Notes: J4001, J4002, VR4001 --- VCR CBA

1. Connect equipment as shown in the above table.
2. Insert a blank tape and set the VCR to REC mode.
   (Do not set to PAUSE. In PAUSE mode, the bias oscillation is stopped.)
3. Adjust VR4001 so that the voltage becomes 25.0mV.

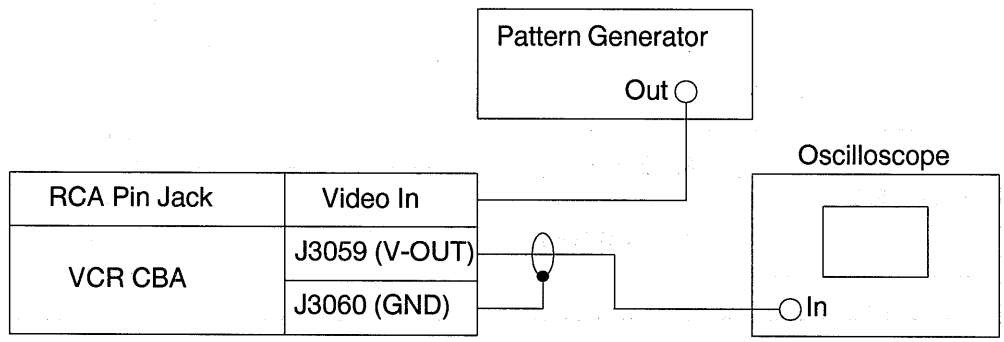
18. V-OUT LEVEL ADJUSTMENT

Purpose: To set the optimum luminance V-out level.

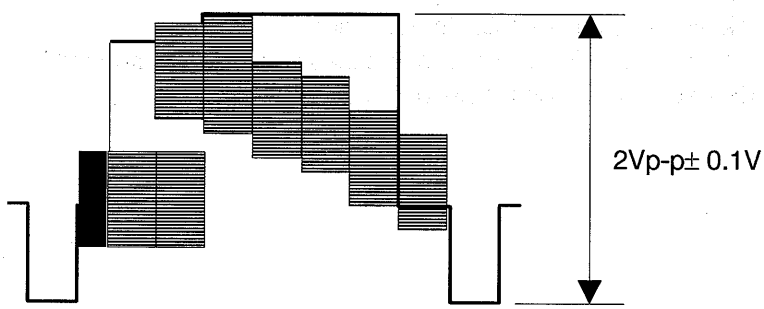
Symptom of Misadjustment: If the V-out level is too high, TV may overload. If the Level is too low, the S/N ratio deteriorates.

Test Point	Adjustment Point	Mode	Input
J3059 (V-OUT) J3060 (GND)	VR3003 (E-E LEVEL)	E-E	Color Bar signal with 100% White Level
Tape	**Equipment**	**Spec.**	
---	Pattern Generator Oscilloscope	2Vp-p±0.1V	

Connections of Equipment



Figure



Reference Notes: J3059, J3060, VR3003 --- VCR CBA

1. Connect equipment as shown in the above table.
2. Input Color Bar signal with 100% White to Video Input.
3. Adjust VR3001 so that the video level becomes 2Vp-p±0.1V. (Connected to TV)

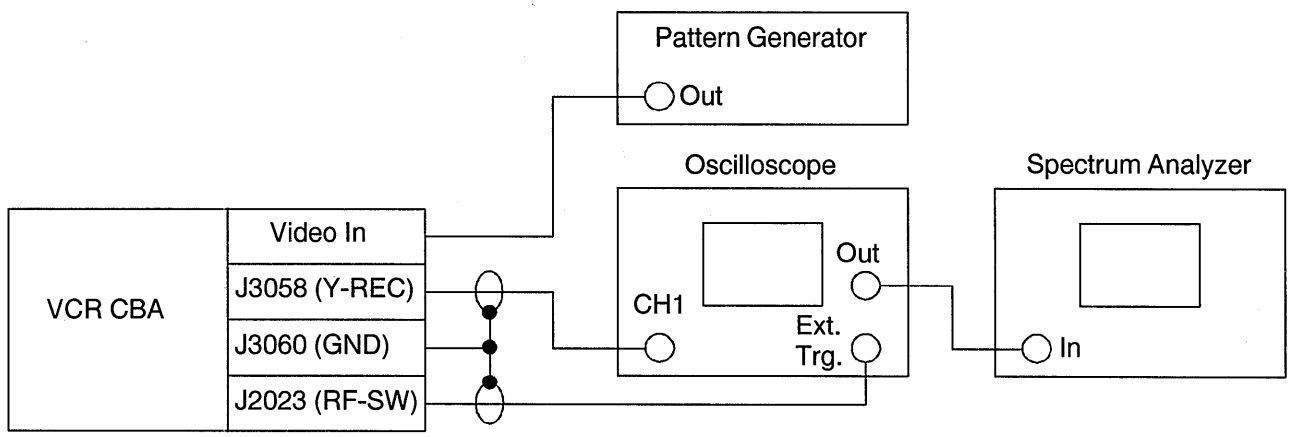
19. FM CARRIER DEVIATION ADJUSTMENT

Purpose: To align FM carrier deviation.

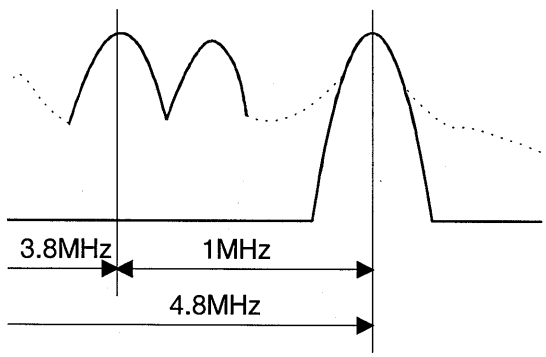
Symptom of Misadjustment: If the deviation is not correct, abnormal contrast of light and dark may be seen on the picture.
If the carrier deviation is not correct, beats will appear on the picture.

Test Point	Adjustment Point	Mode	Input
J3058 (Y-REC) J2023 (RF-SW) J3060 (GND)	VR3002 (DEVI) VR3001 (CAR)	REC. (SP)	Color Bar signal with 100% white
Tape	**Equipment**	**Spec.**	
Blank Tape	Pattern Generator Spectrum Analyzer Oscilloscope	Sync-tip 3.8MHz±0.1MHz 100% white peak 4.8MHz±0.1MHz	

Connections of Equipment



Figure

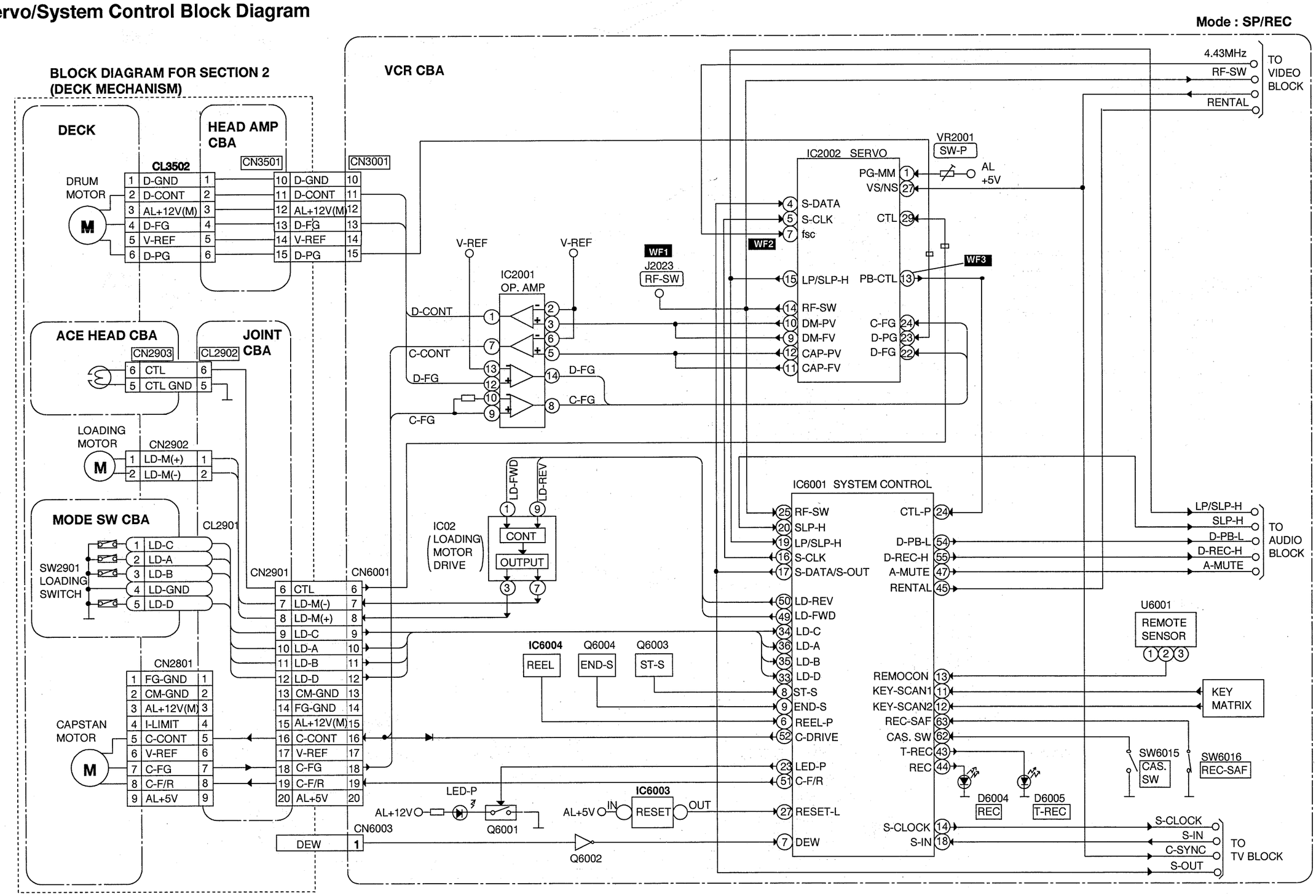


Reference Notes: J3058, J2023, J3060, VR3001, VR3002 --- VCR CBA

1. Connect the equipment as shown in the above table.
2. Input color bar signal with 100% white to video input.
3. Adjust Sync-tip to 3.8MHz by VR3001, White-peak for 4.8MHz±0.1MHz by VR3002.

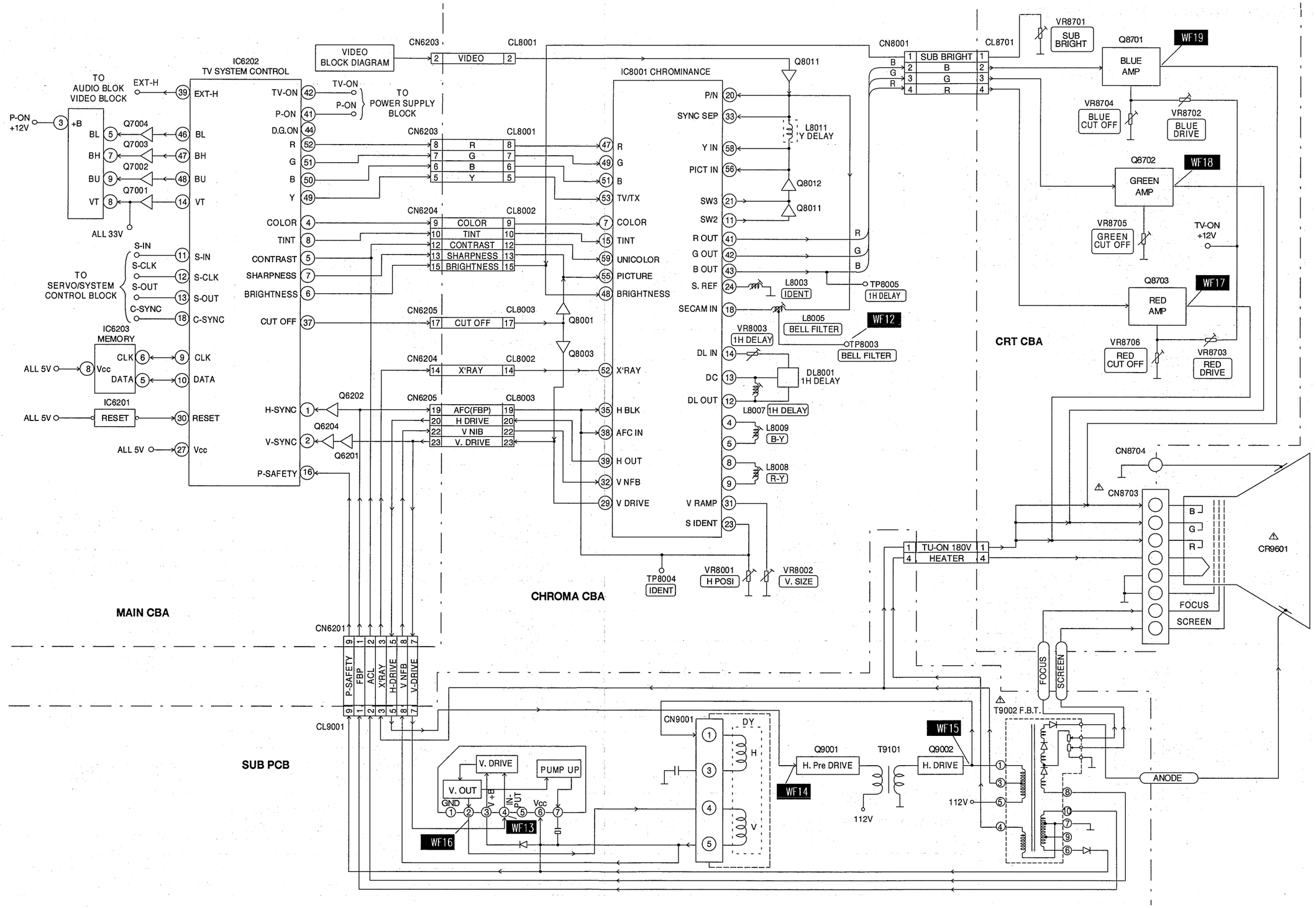
BLOCK DIAGRAMS

Servo/System Control Block Diagram

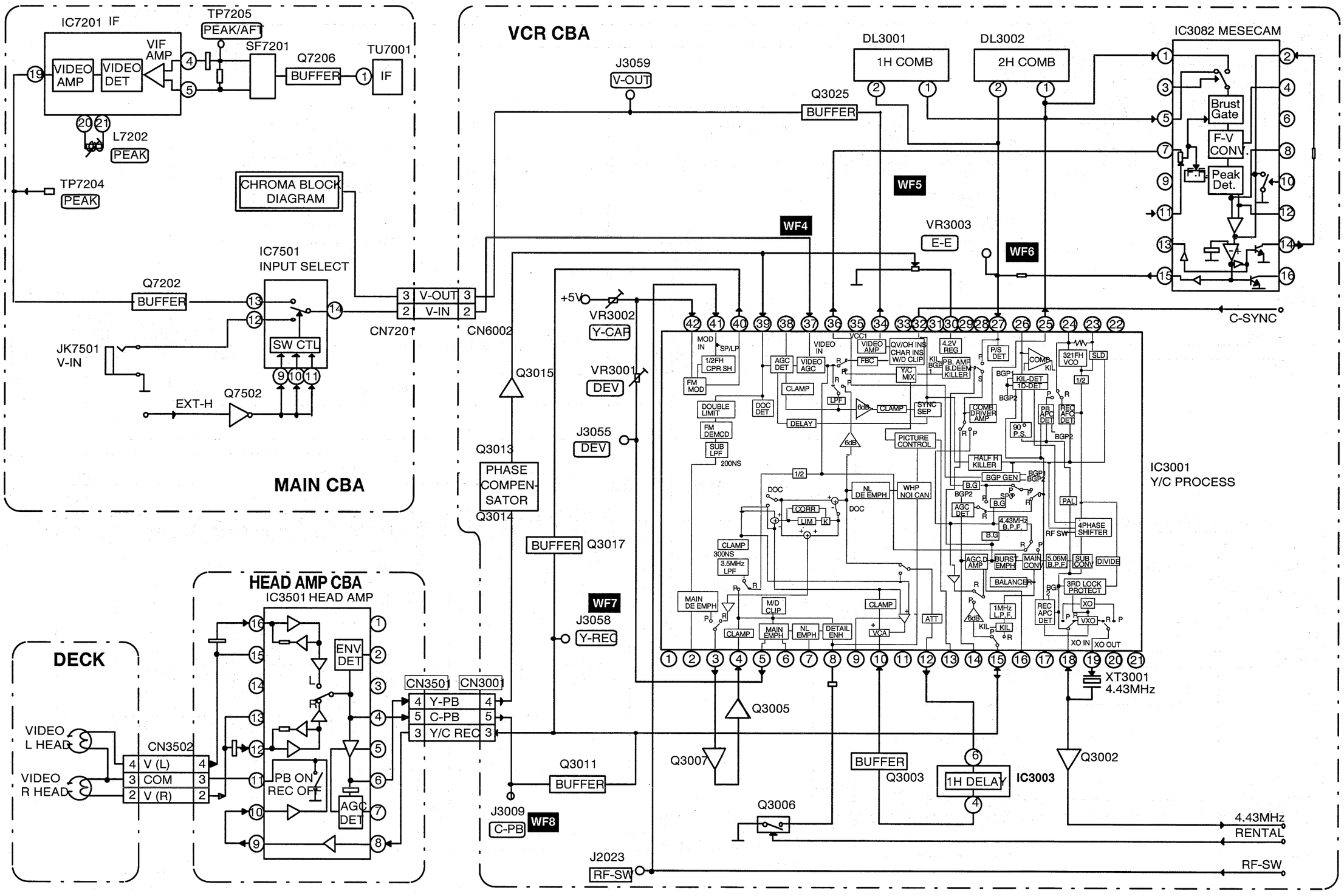


(B5422BLS)

TV/CRT Block Diagram

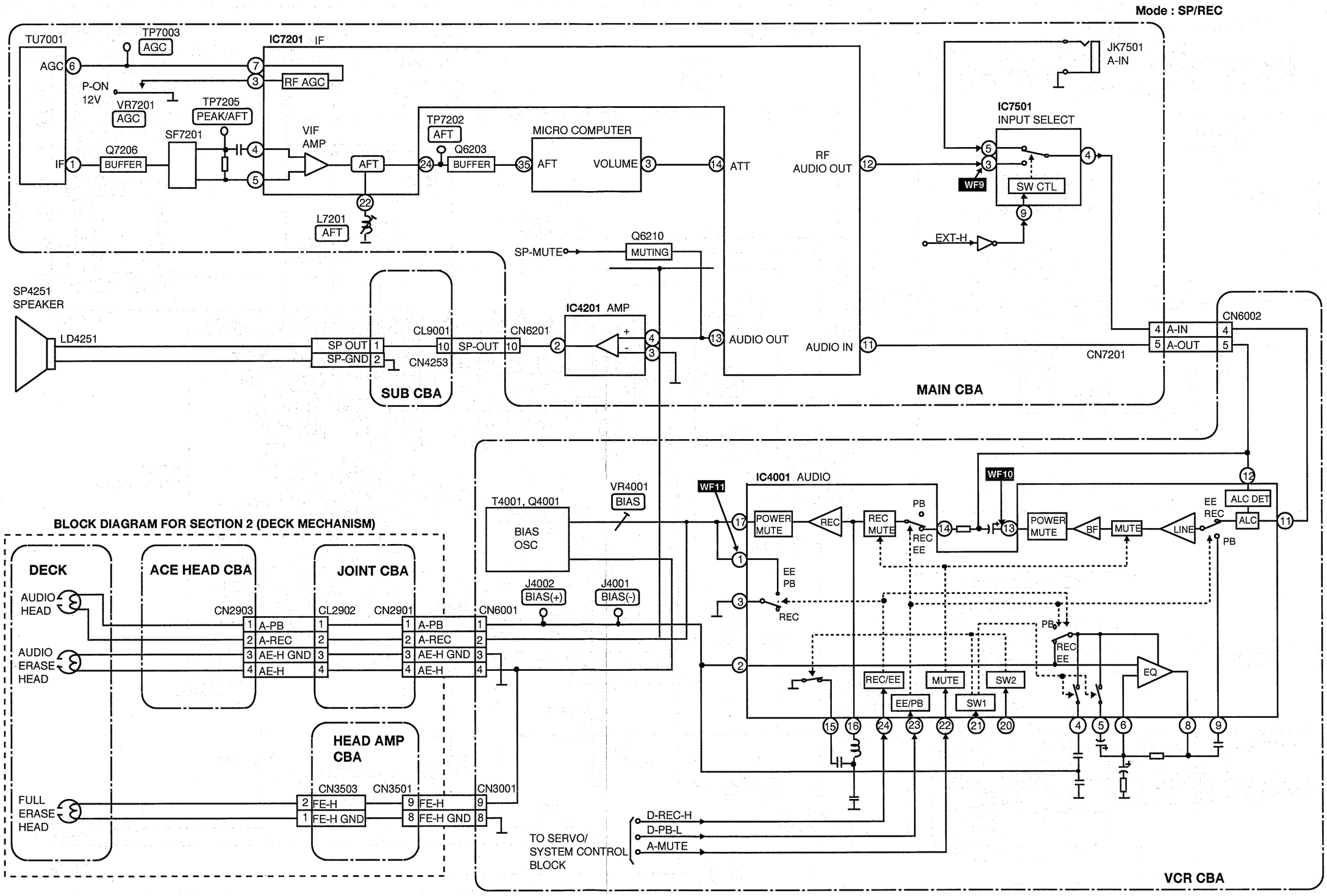


Video Block Diagram

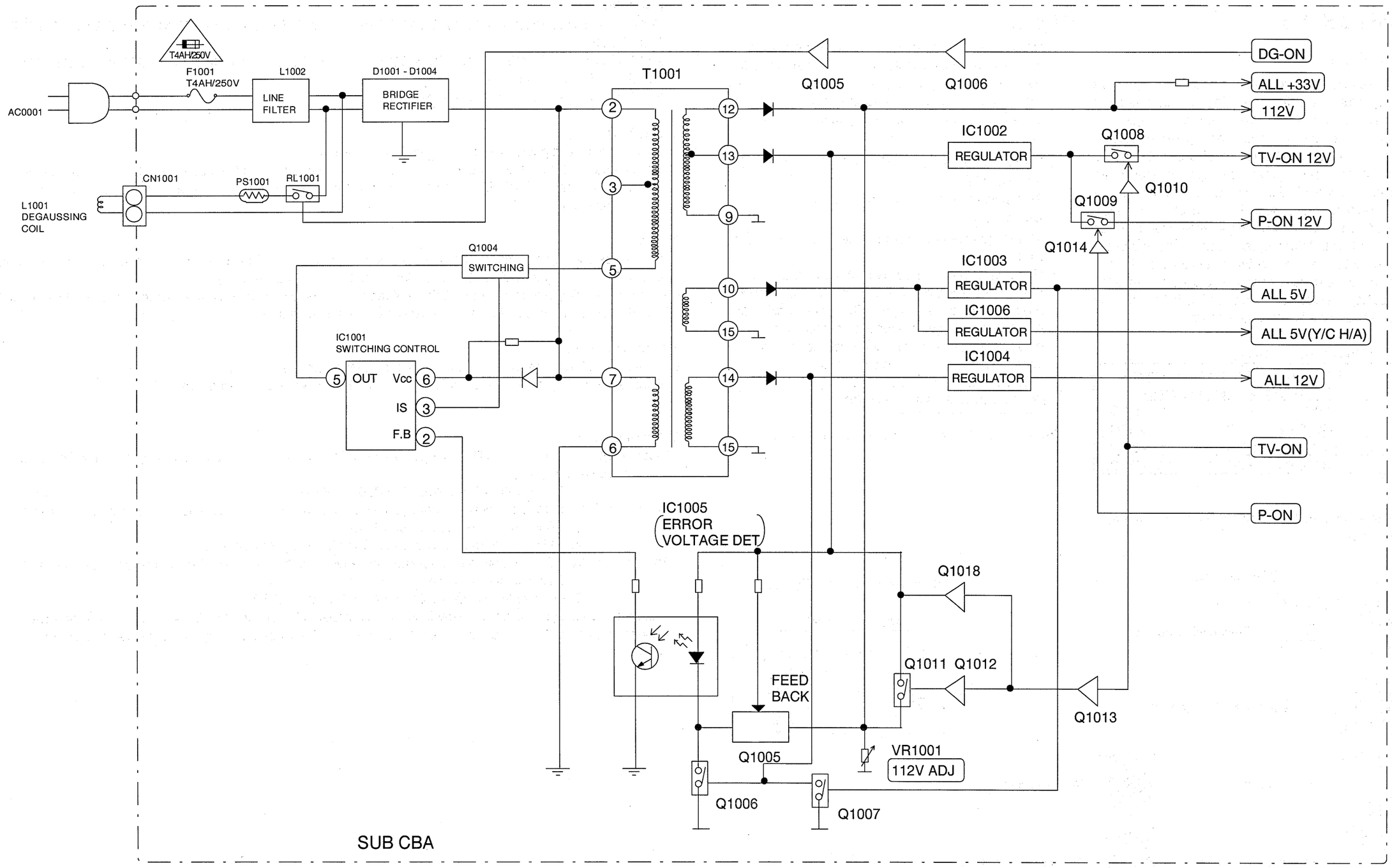


(B5422BLV)

Audio Block Diagram



Power Supply Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 -80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 -80%	20°C	-10~+70°C

Note:

1 Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.

2 All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).

3 Resistor wattages are 1/5W or 1/6W unless otherwise specified.

4 All capacitance values are indicated in μF ($P=10^{-6}\mu F$).

5 All voltages are DC voltages unless otherwise specified.

6 Electrical parts such as capacitors, connectors, diodes, IC's, transistors, resistors, switches, and fuses are identified by four digits. The first two digits are not shown for each component. In each block of the diagram, there is a note such as shown below to indicate these abbreviated two digits.

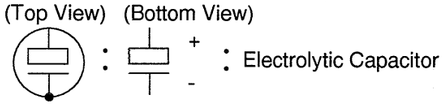
TUNER BLOCK SYMBOL NO. 70**

Example: "C08" in this "TUNER BLOCK" is C7008.

Capacitors and transistors are represented by the following symbols.

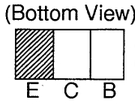
CBA Symbols

(Top View) (Bottom View)



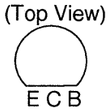
: Electrolytic Capacitor

(Bottom View)



: Transistor or Digital Transistor

(Top View)

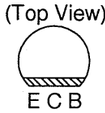


NPN Transistor

(Top View)

PNP Transistor

(Top View)



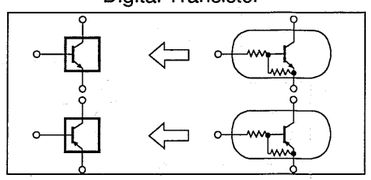
NPN Digital Transistor

(Top View)

PNP Digital Transistor

Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE T1.6A 250V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE T1.6A 250V.
RISK OF FIRE-REPLACE FUSE AS MARKED.

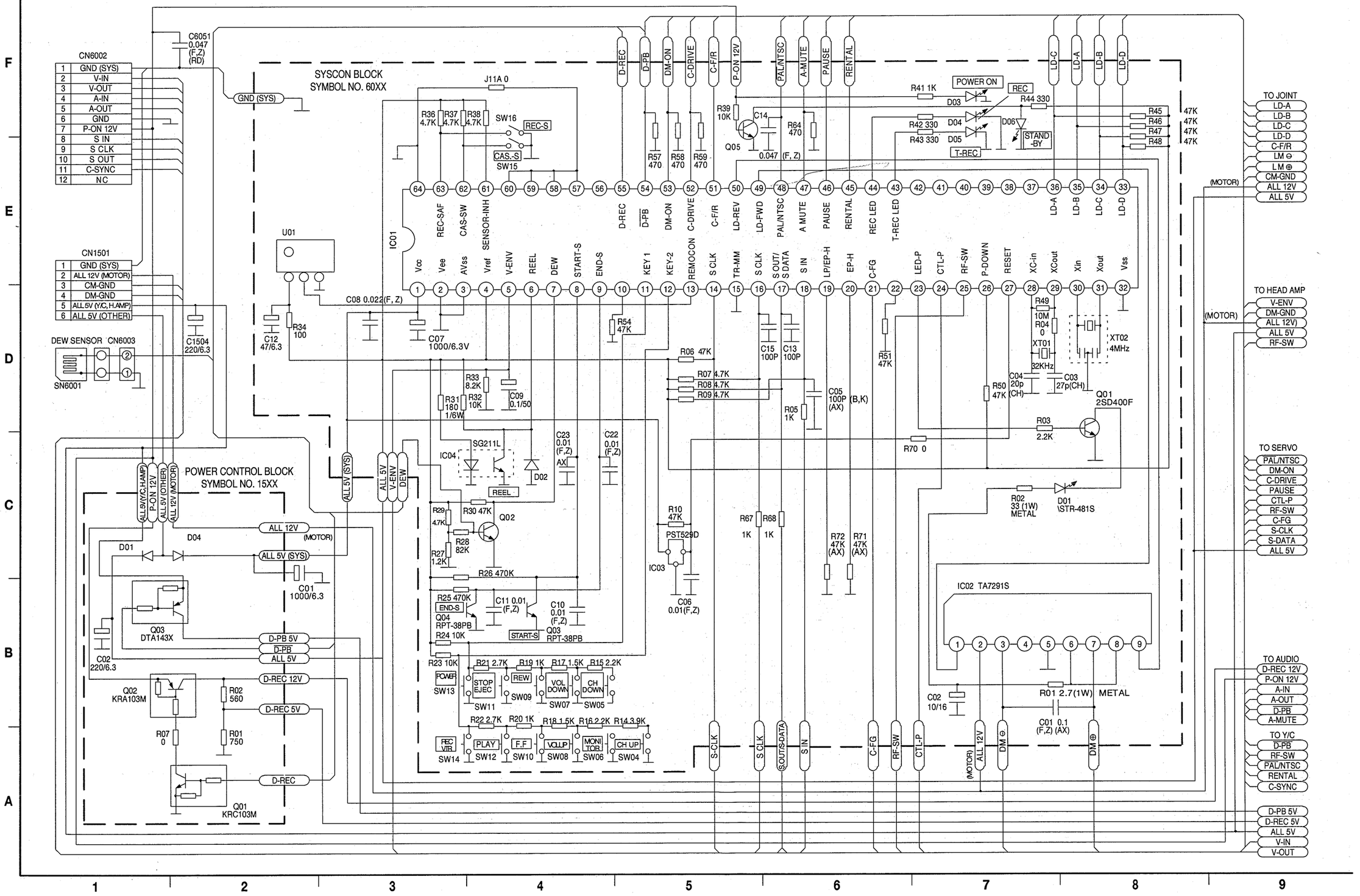
2. **CAUTION:**
Voltage selectable power supply circuit is used in this unit.
If Main Fuse (F01) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**
(1)Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
(2)To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors
(1)Prefix symbol "CN" means "connector." (Can disconnect and reconnect)
(2)Prefix symbol "CL" means "wire-solder holes of the PCB." (Wire is soldered directly.)

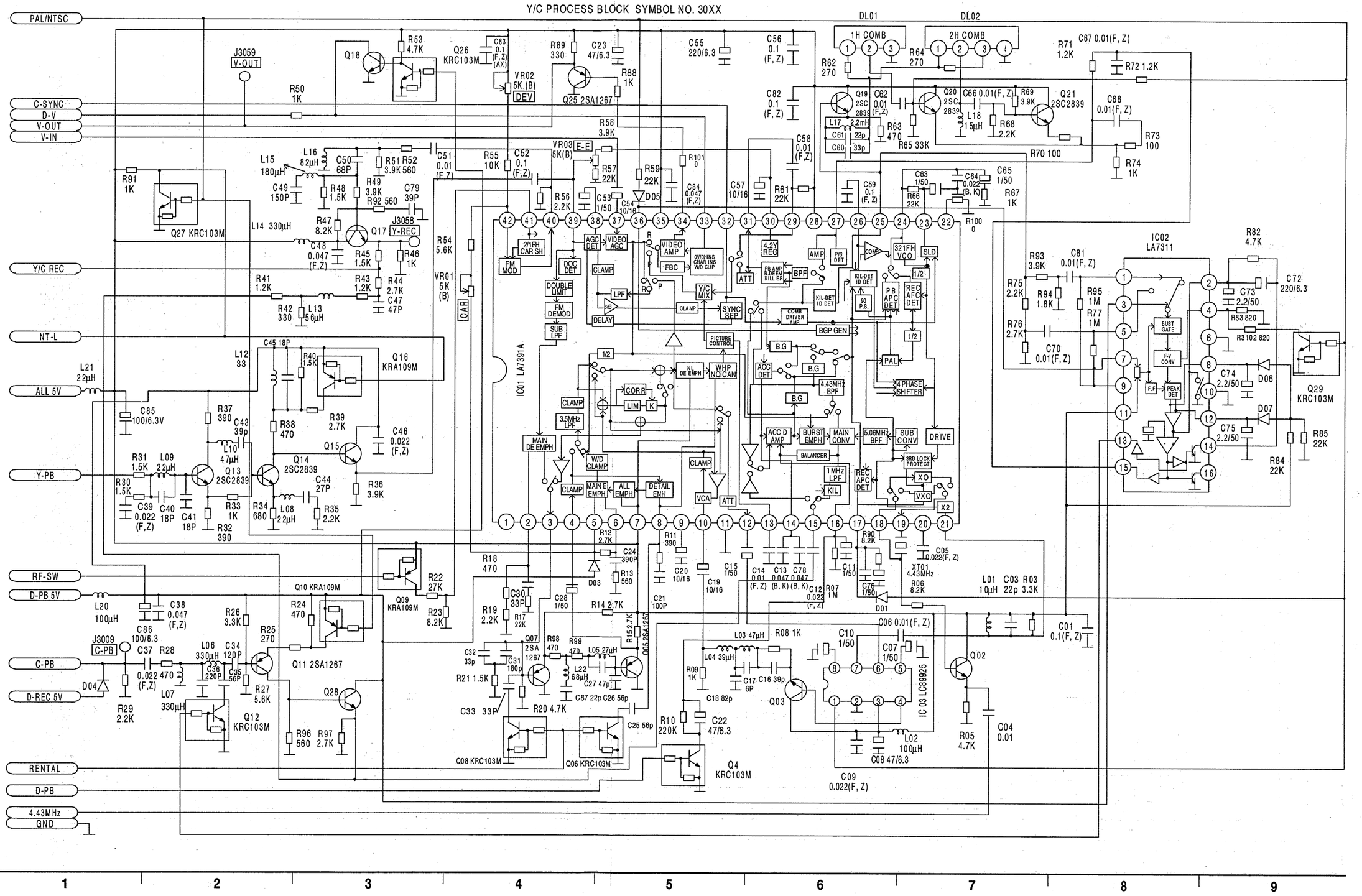
5.Parts Information
Diode: Diode which is not speciified a type number in the schematic diagrams, can be used following part as substitutional parts.
1SS176,1N4148M,GMB01B,1SS254,1SS133.
Transistor (PNP) : Transistor which is not specified a type number in the schematic diagrams, can be used following part as substitutional parts.
2SC1740,2SC536SP,2SC3331,KTC3199,KTC3198,2SC1815.
Transistor (NPN) : Transistor which is not specified a type number in the schematic diagrams, can be used following part as substitutional parts.
2SA933,2SA608SP,2SA1318,KTA1267,KTA1266,2SA1015
Capacitor : Capacitor which is not specified a type number in the schematic diagram, is chip capacitor (SL).
Resistor: Resistor which is not specified a type number in the schematic diagram, is chip resistor 1/10W.

VCR 1/3 Schematic Diagram



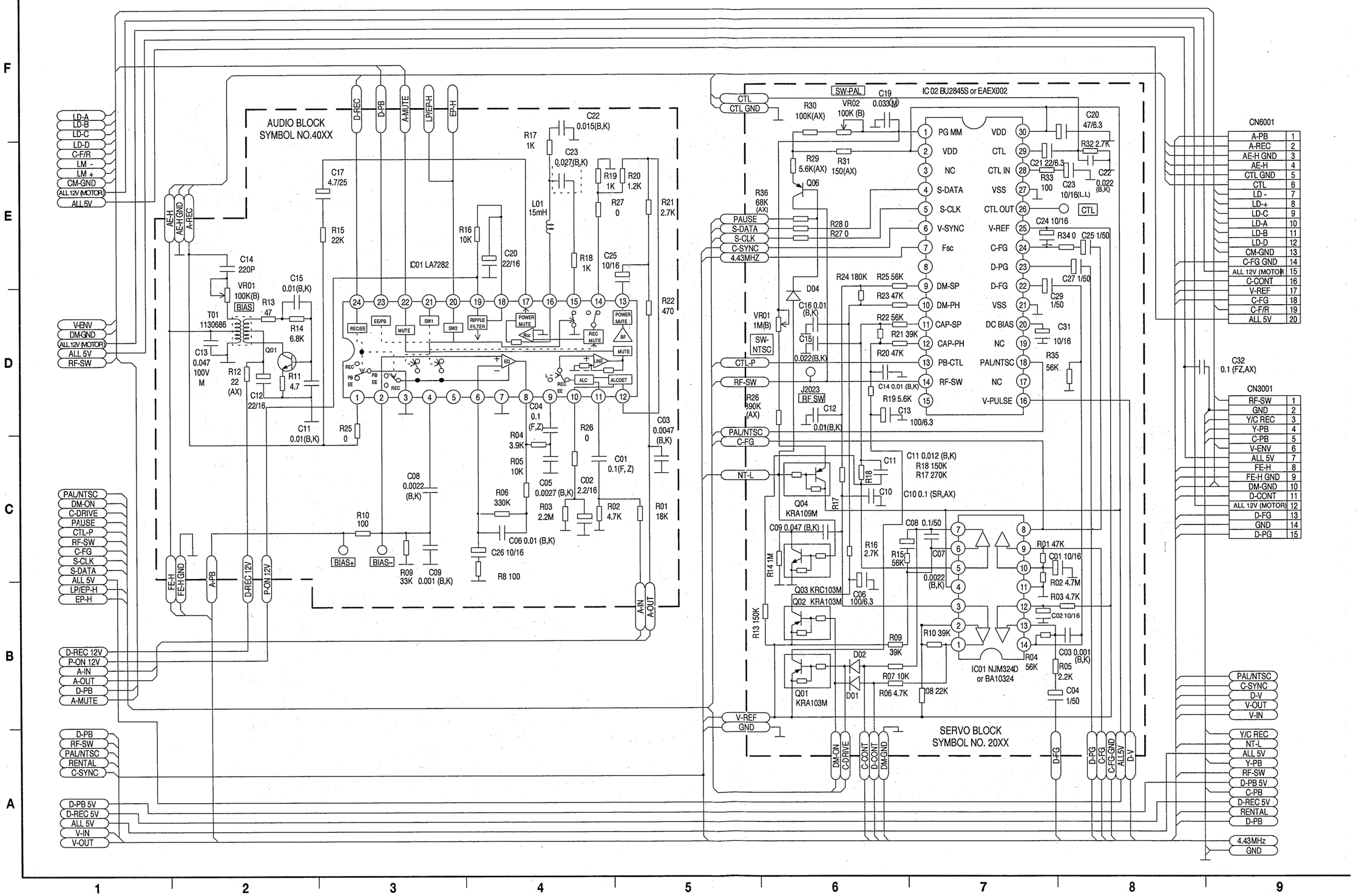
(B7452V_1)

VCR 2/3 Schematic Diagram



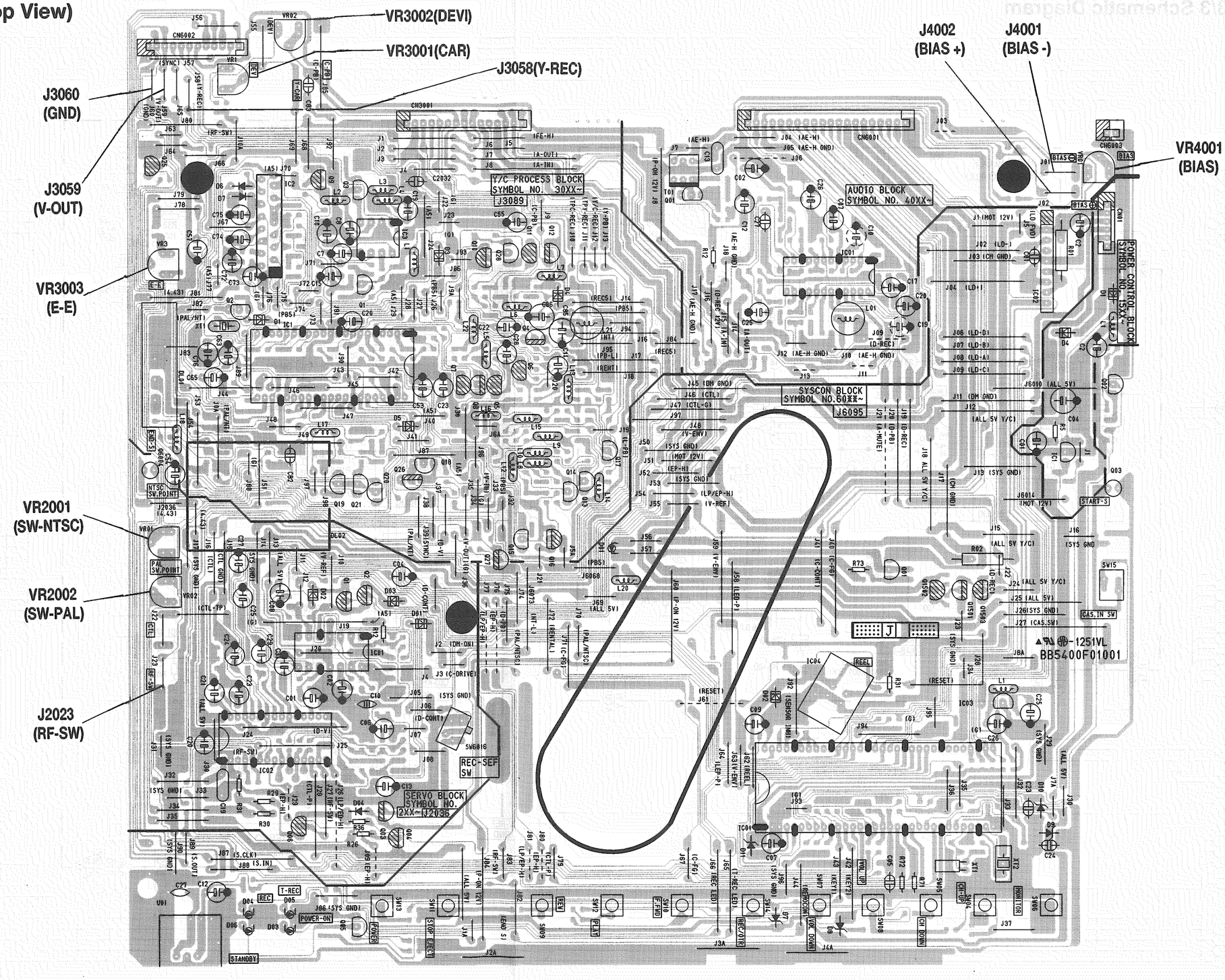
(B7462V_2)

VCR 3/3 Schematic Diagram



(B7452V_3)

VCR CBA (Top View)

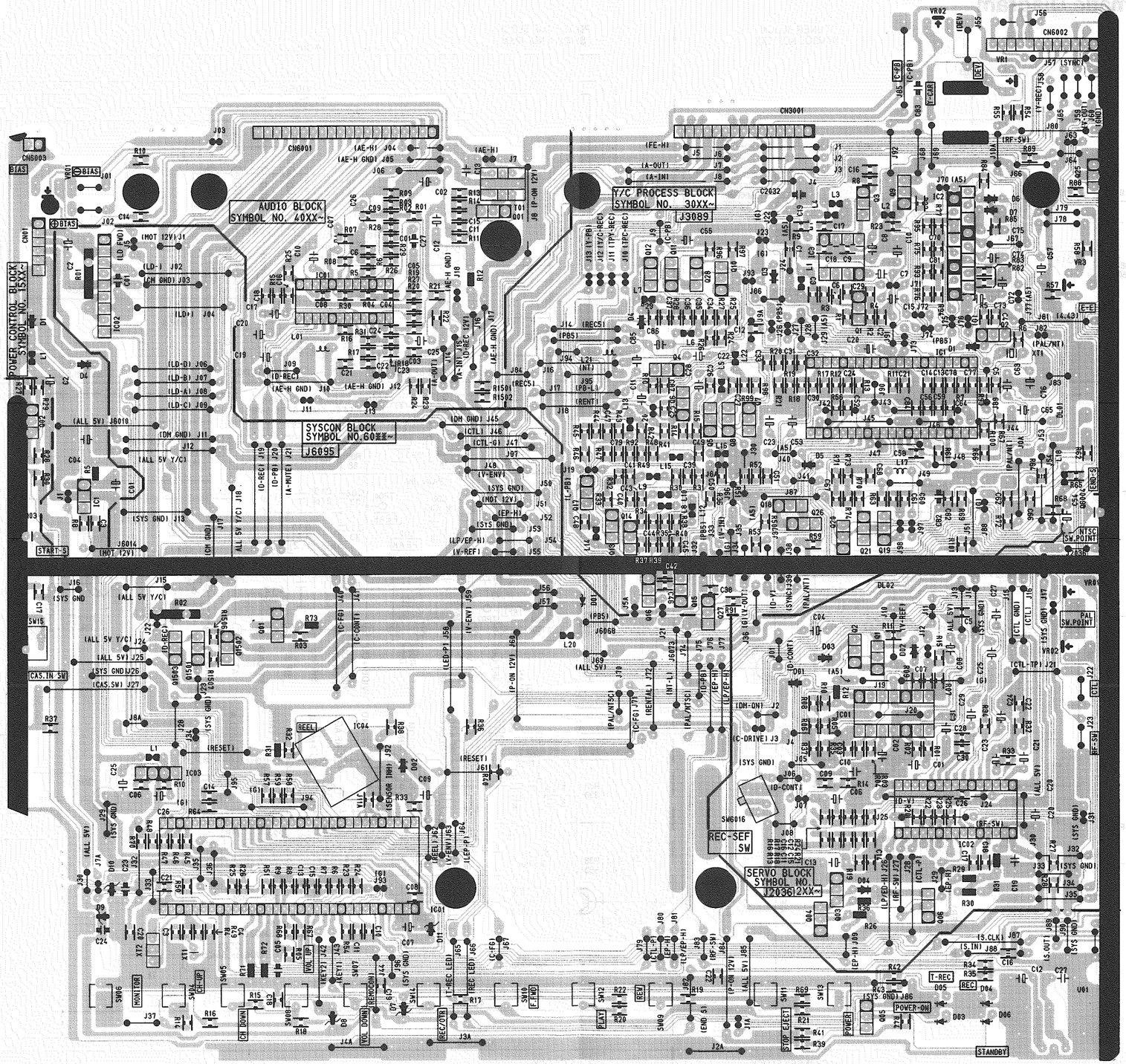


F E D C B A

1 2 3 4 5 6 7 8 9

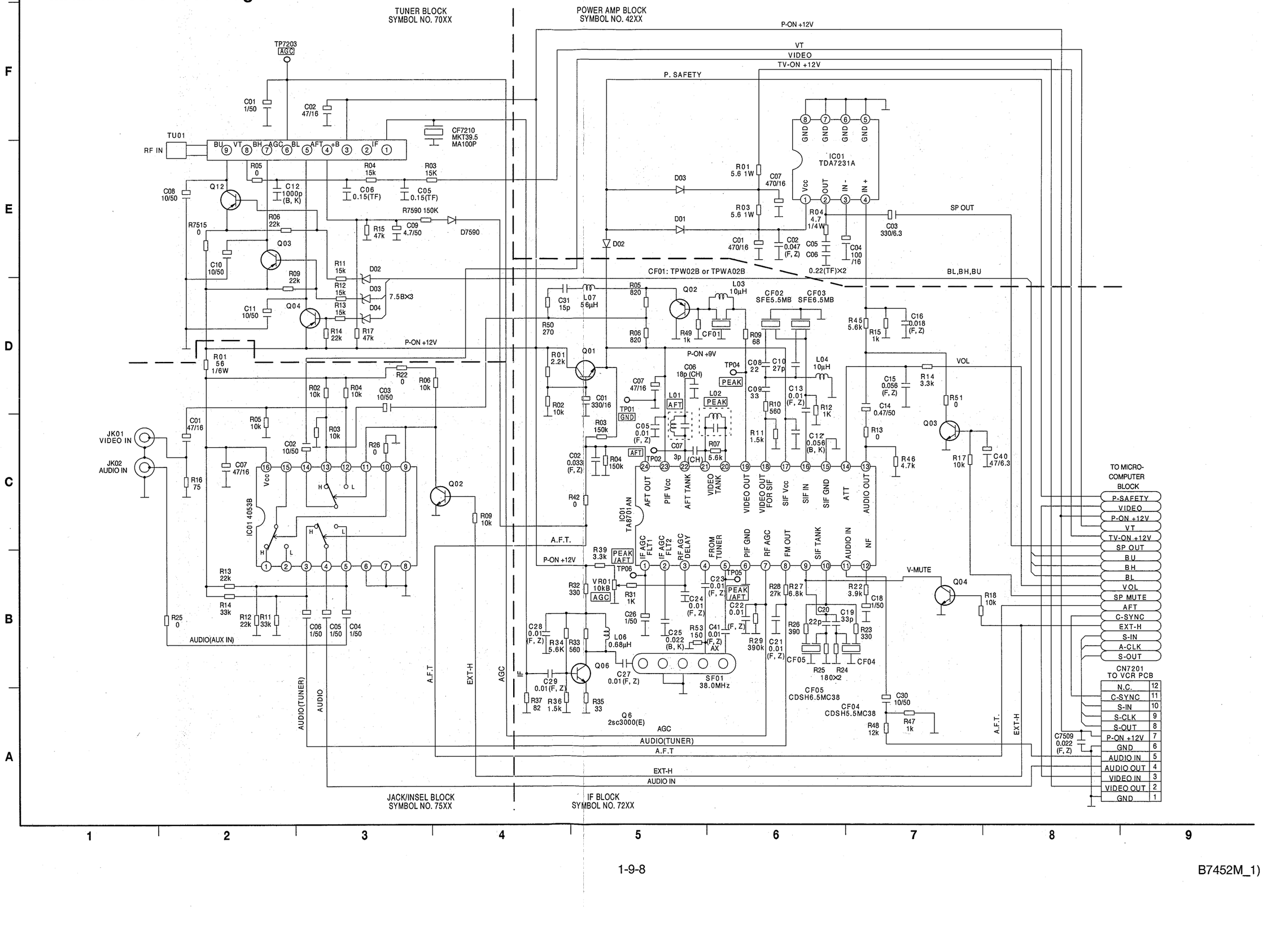
(BB5400F01001)

VCR CBA (Bottom View)



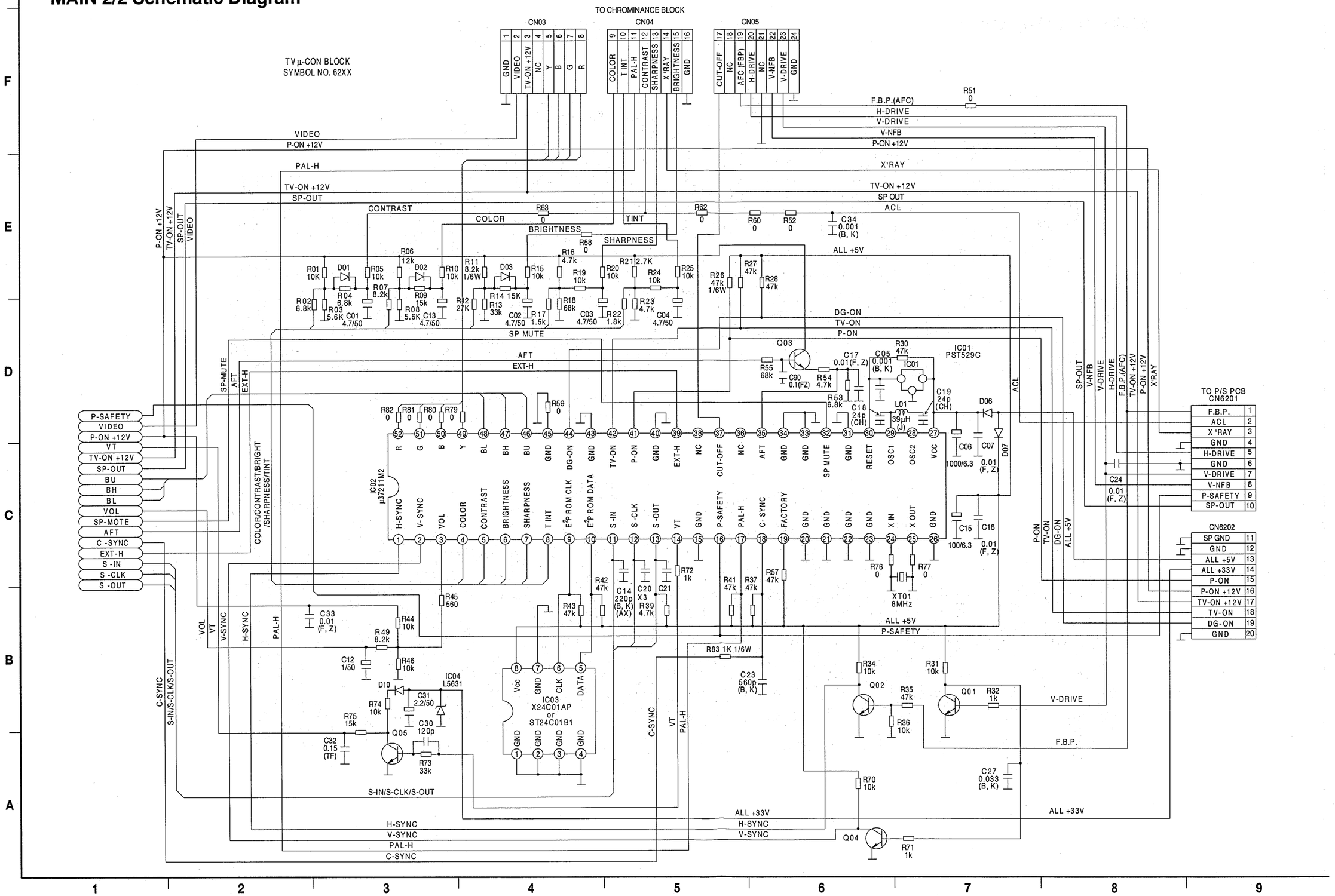
(BB5400F01001)

MAIN 1/2 Schematic Diagram



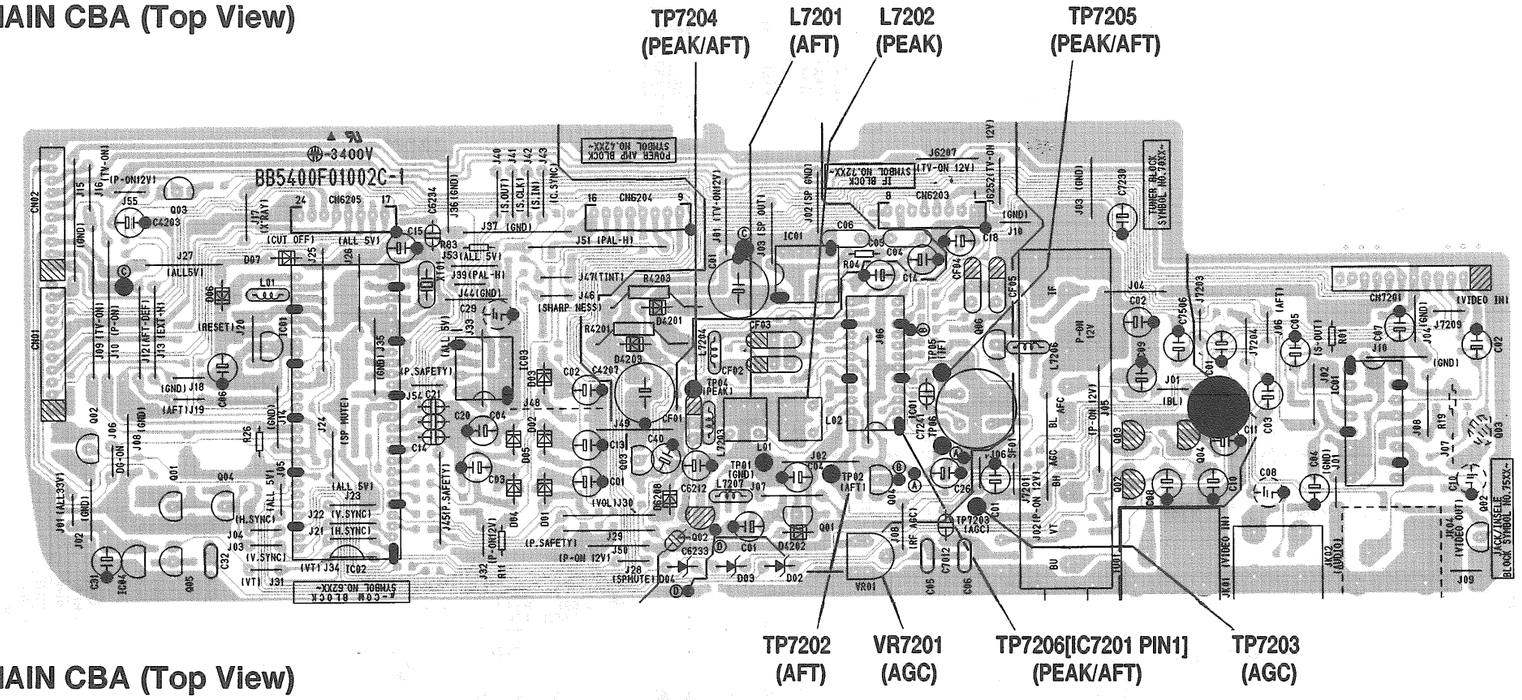
B7452M_1)

MAIN 2/2 Schematic Diagram

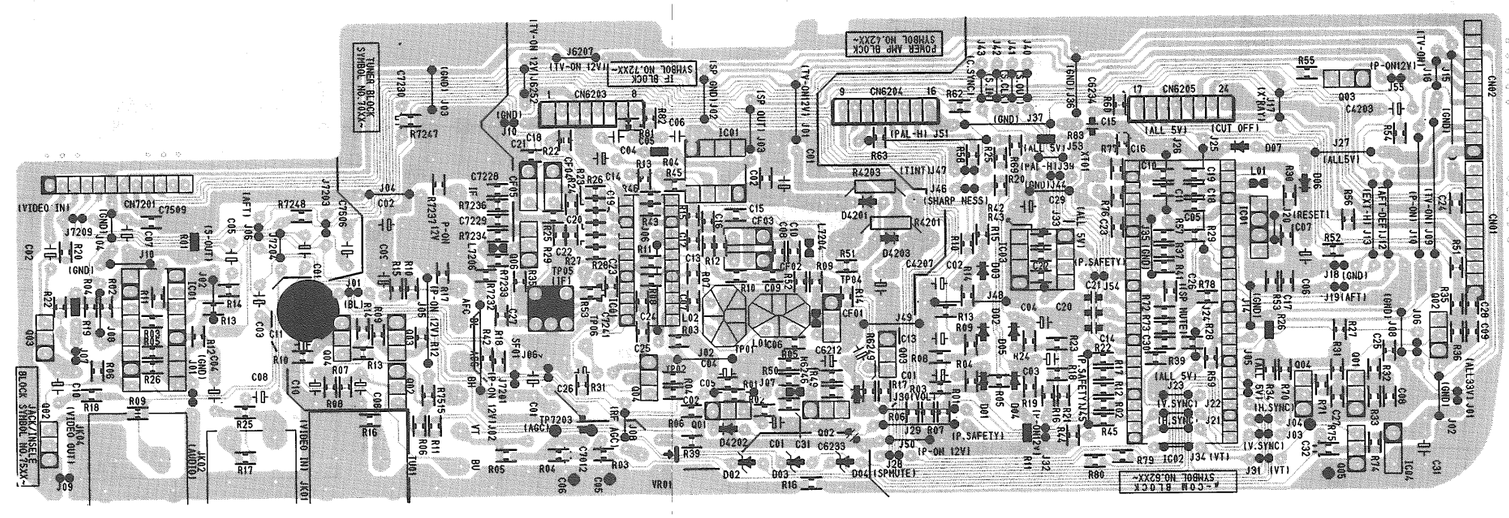


(B7462M_2)

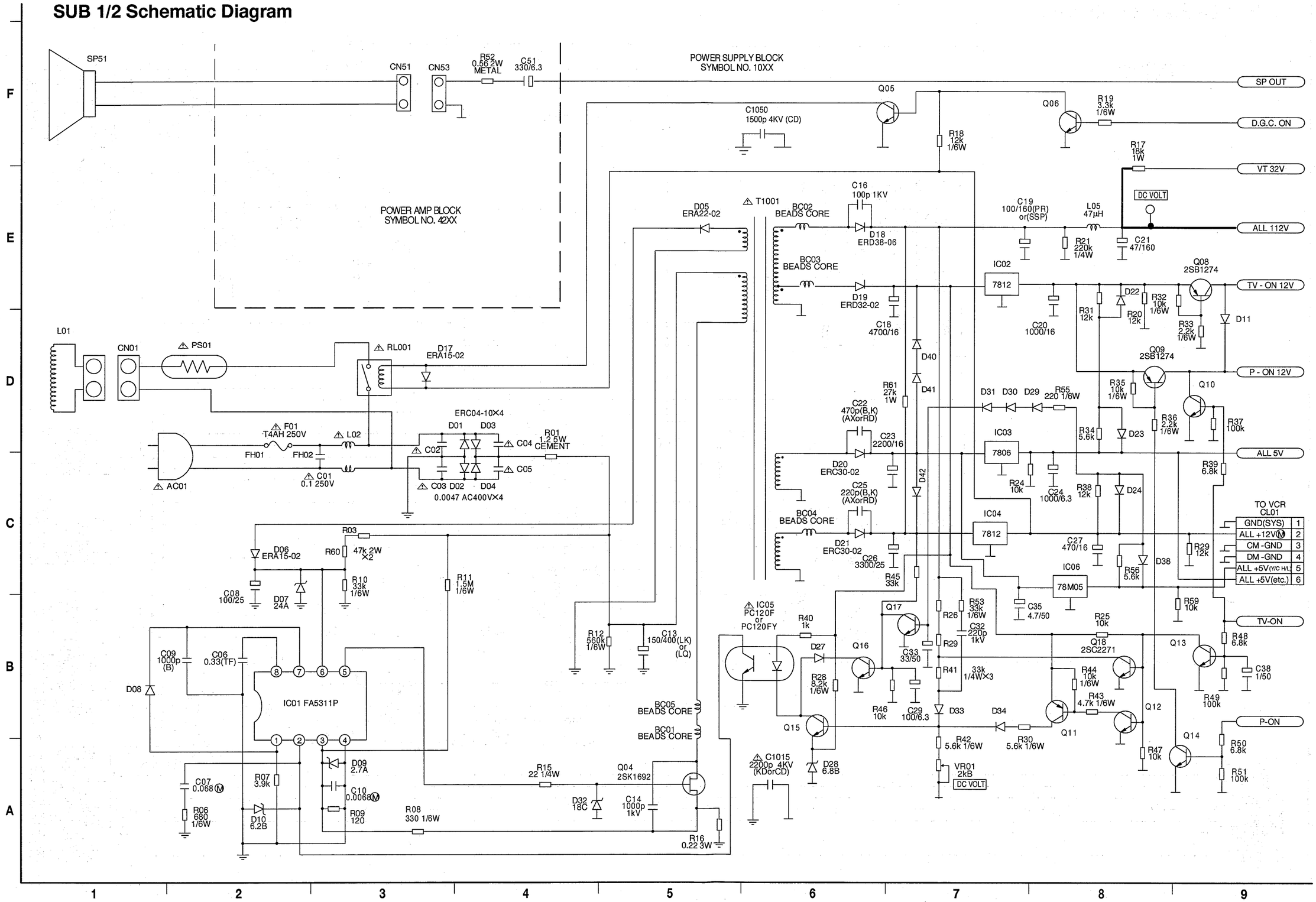
MAIN CBA (Top View)



MAIN CBA (Top View)



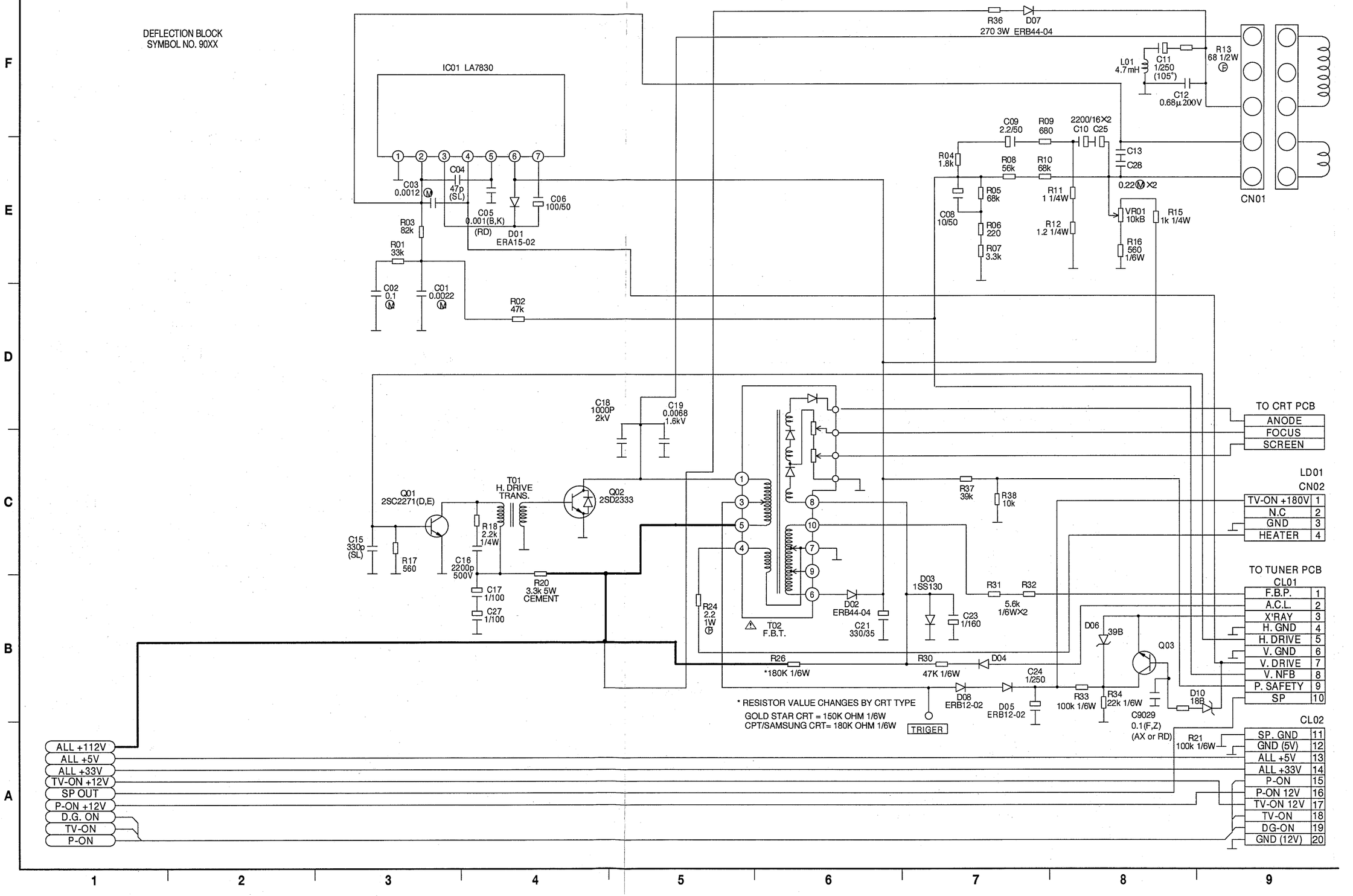
SUB 1/2 Schematic Diagram



(B7452S_1)

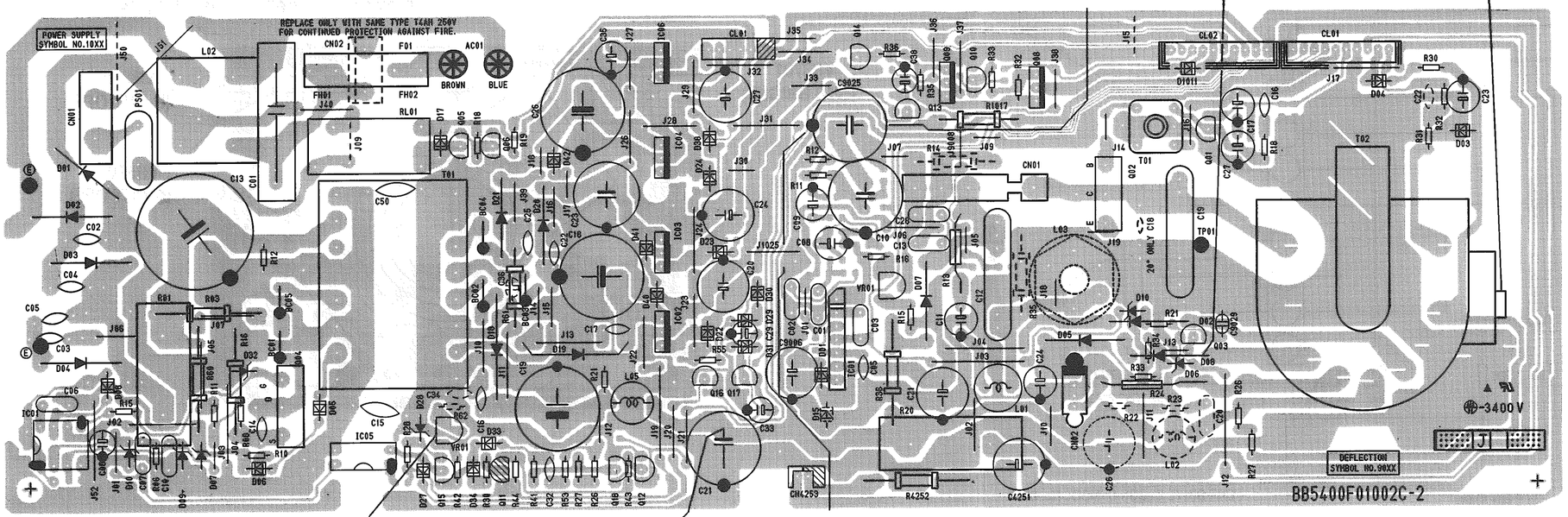
SUB 2/2 Schematic Diagram

DEFLECTION BLOCK
SYMBOL NO. 90XX

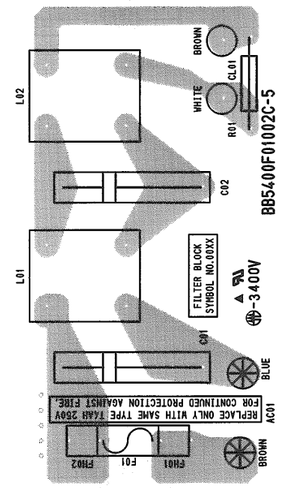


(B7452S_2)

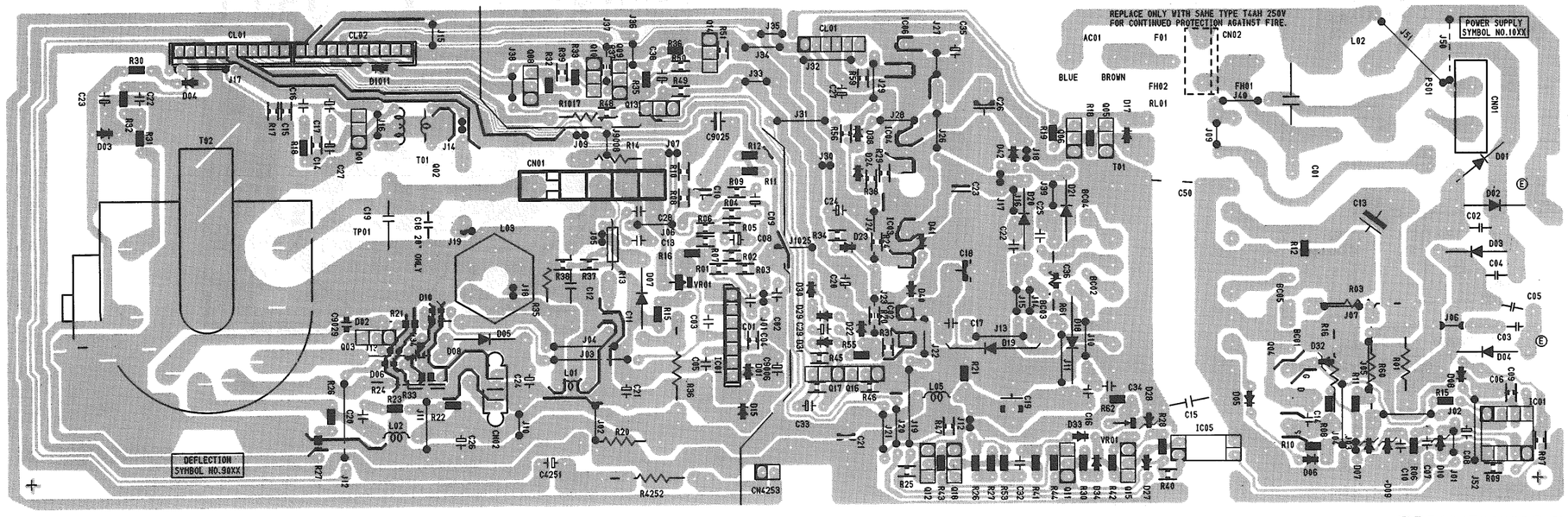
SUB CBA (Top View)



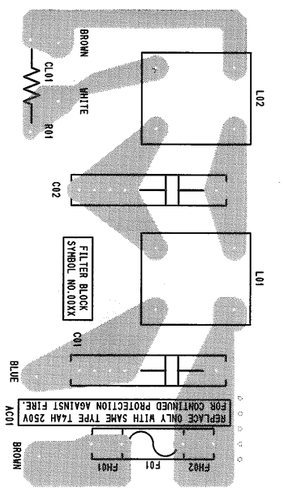
FILTER CBA (TOP VIEW)



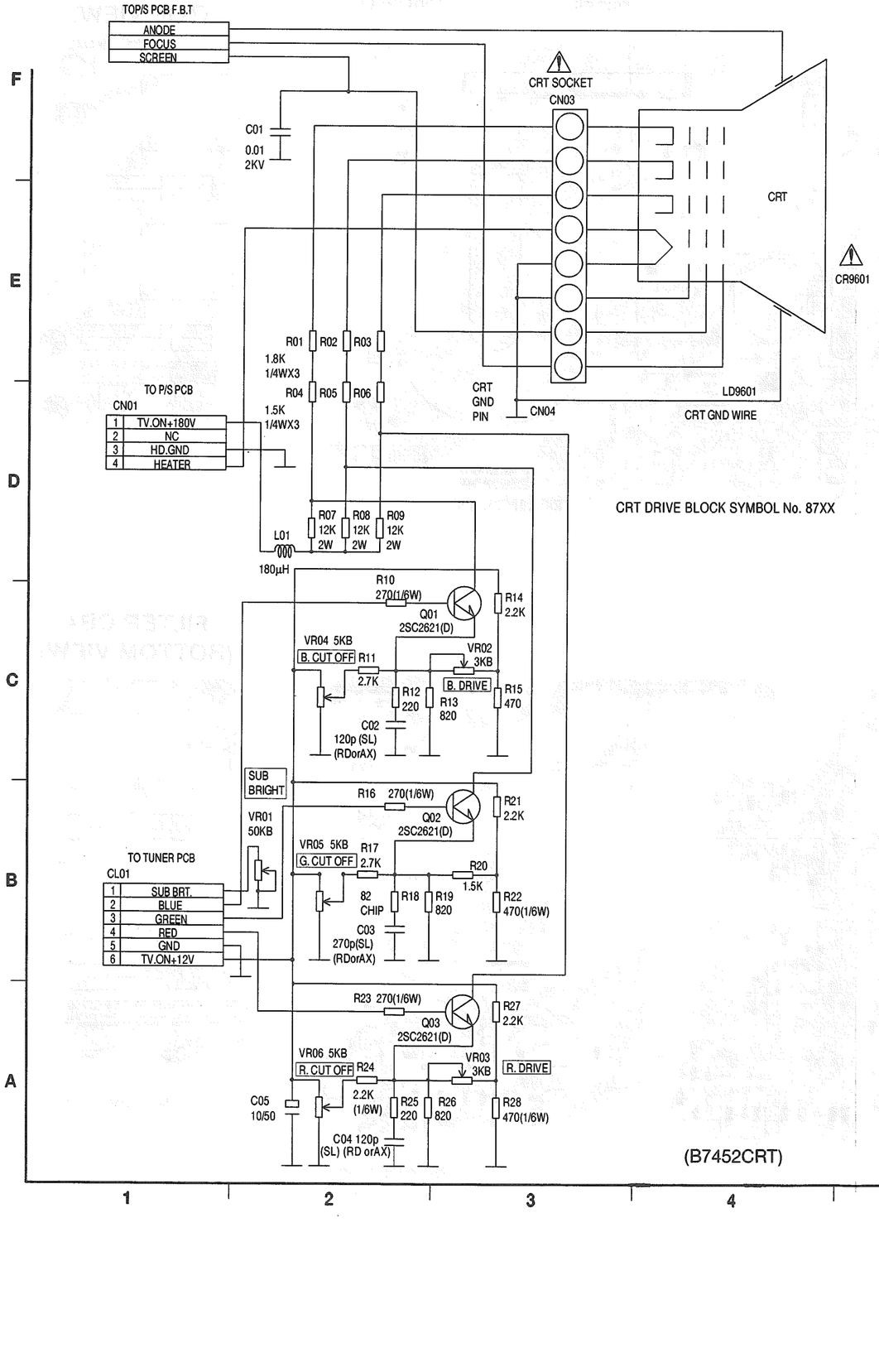
SUB CBA (Bottom View)



FILTER CBA (BOTTOM VIEW)

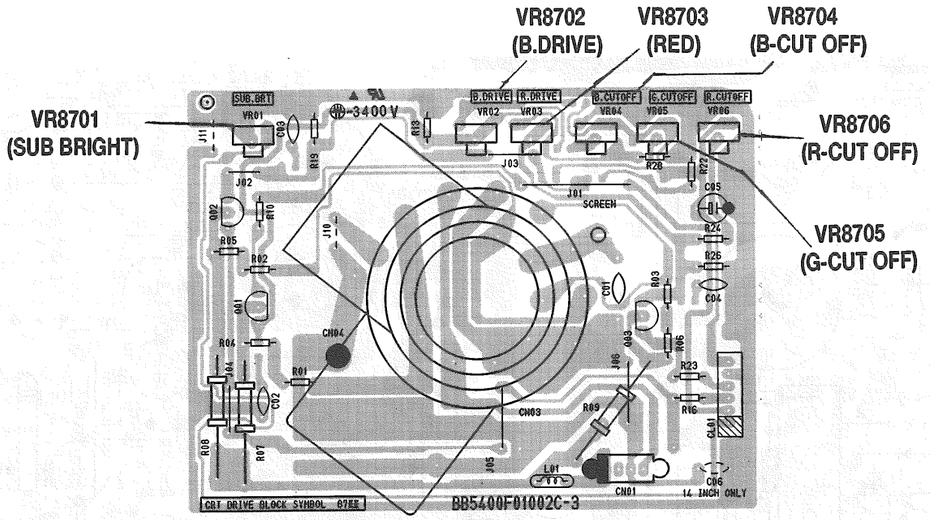


CRT Schematic Diagram

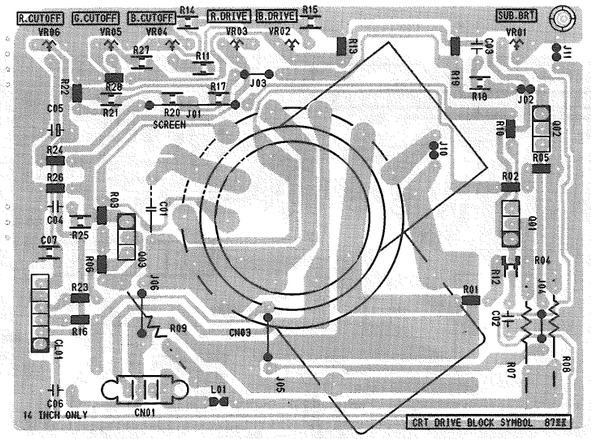


(B7452CRT)

CRT CBA (Top View)



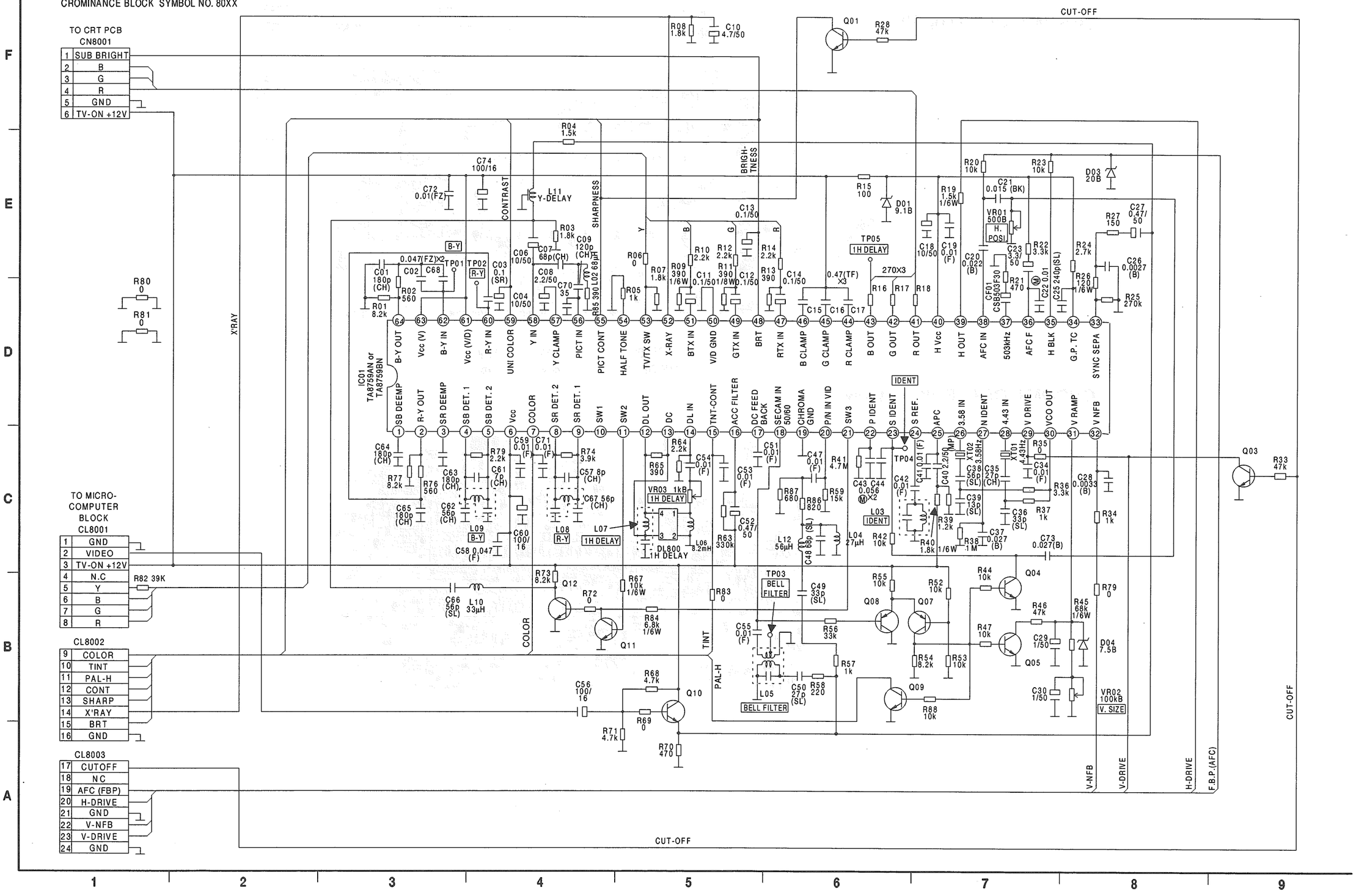
CRT CAB (Bottom View)



(BB5400F01002C-3)

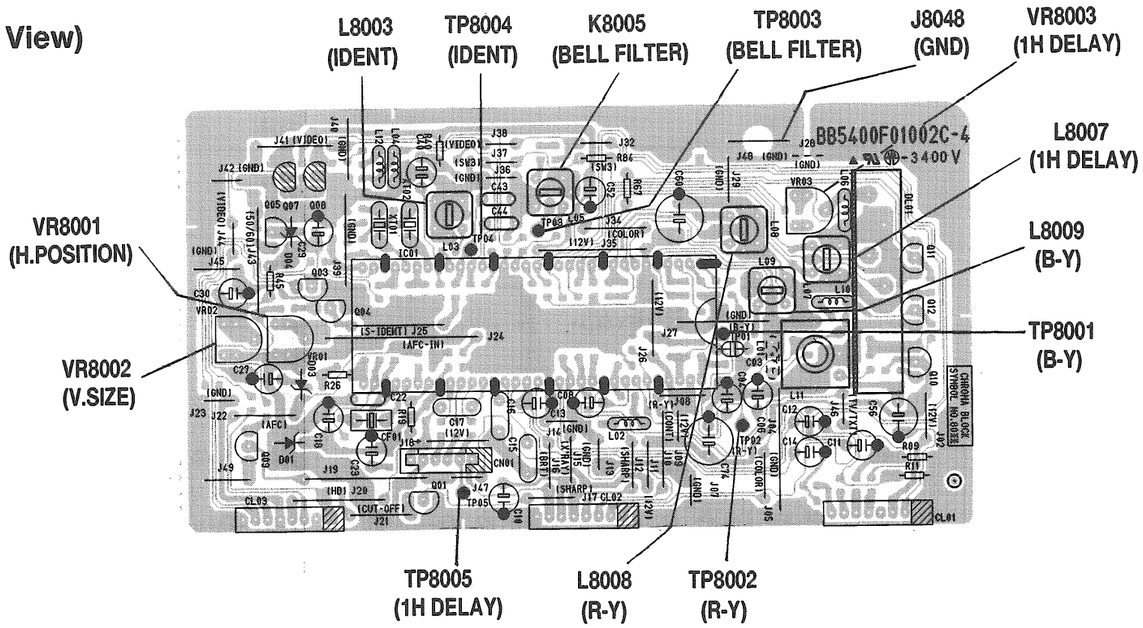
CHROMA Schematic Diagram

CROMINANCE BLOCK SYMBOL NO. 80XX

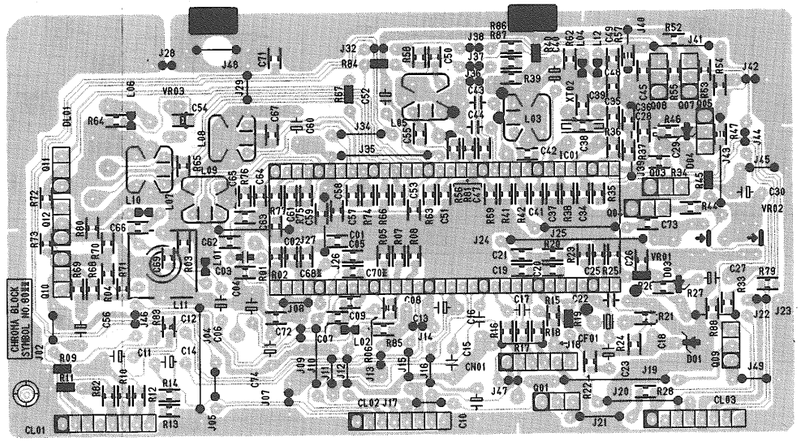


(B7462CHR)

CHROMA CBA (Top View)



CHROMA CBA (Bottom View)



(BB5400F01002C-4)

VOLTAGE CHART

Measurement Condition: Input; 80dBμ Color Bar Signal from Antenna

Ref. No.	Emitter	Collector	Base
Q1005	0	12.0	0
Q1006	0	0	0.6
Q1008	12.1	12.0	11.4
Q1009	12.1	12.0	11.4
Q1010	0	0	0.7
Q1011	14.1	0	14.1
Q1012	0	14.1	0
Q1013	0	0	0.6
Q1014	0	0	0.7
Q1015	6.7	12.2	7.2
Q1016	0	0	0.7
Q1017	0	0	0.7
Q1018	0	42.4	0
Q1501	0	11.8 (0)	0 (5.0)
Q1502	11.9	0 (10.1)	11.9 (0)
Q1503	5.0	4.9 (0.5)	0.4 (4.8)
Q2001	2.5	2.5	4.9
Q2002	2.5	2.0	4.9
Q2003	0	0	4.7
Q2004	5.0	0.6	4.7
Q2006	5.0	2.4	5.1
Q3002	3.0	4.9	3.6
Q3003	1.0	4.8	1.6
Q3004	0	2.2(0)	0.4 (4.8)
Q3005	3.3 (3.6)	0	2.7 (3.0)
Q3006	0	0.6	0
Q3007	2.7 (3.0)	0	2.0 (2.4)
Q3008	0	0.7	0
Q3009	4.9	2.5	2.4
Q3010	4.8 (0.5)	4.7 (0.5)	0.9 (0.1)
Q3011	3.7 (0.5)	2.1	3.0 (0.3)
Q3012	0	0	4.2
Q3013	1.6 (0.5)	3.2 (0.5)	2.3 (1.3)
Q3014	0.9	4.2	1.6
Q3015	3.6	4.8	4.2
Q3016	4.8	4.8	4.7
Q3017	1.3	4.9	1.9
Q3018	0	0	0
Q3019	1.5	4.9	2.3
Q3020	1.0	4.9	0.9
Q3021	1.1	4.9	1.8

Ref. No.	Emitter	Collector	Base
Q3025	2.7	0	2.1
Q3026	0	0	4.8
Q3027	0	4.7	.0.9
Q3028	1.4	4.8	.2.1
Q4001	0 (0.2)	0 (9.2)	0
Q6001	0	9.0	0.2
Q6002	0	4.8	0
Q6003	0	4.3	-
Q6004	O	4.7	. -
Q6005	0	0	0.7
Q6201	0	0	0.6
Q6202	0	4.3	0
Q6203	3.9	12.0	4.4
Q6204	0	5.1	0
Q6205	0	0.6	0.6
Q7002	11.9	0.6	0
Q7003	11.9	0	0
Q7004	11.9	11.8	0
Q7201	8.7	11.9	9.4
Q7202	3.3	0	0
Q7203	0	0	0
Q7204	0	2.6	0
Q7206	0	6.7	0
Q7502	0	11.8	0
Q8001	0	6.0	0
Q8003	0	0.8	0
Q8004	0	5.4	0
Q8005	0	6.4	0
Q8007	5.1	0	5.9
Q8008	5.1	0	4.5
Q8009	0	5.2	0
Q8010	5.2	11.9	5.9
Q8011	0	0	0.6
Q8012	0	11.9	0
Q8701	2.6	147.7	3.1
Q8702	2.8	171.4	3.2
Q8703	2.9	113.5	3.2
Q9001	0	34.2	0.3
Q9002	0	-0.2	120.4
Q9003	0	14.7	-0.6

Voltage showing in ( ) are measured on the RE-CORD Mode.

Pin No.	IC8001	IC6001	IC6202
1	8.5	5.1	4.3
2	7.9	0	5.1
3	8.4	0	5.2
4	6.5	5.0	1.9
5	6.5	1.4 (0)	2.8
6	11.9	-	3.2
7	3.3	5.0	5.0
8	6.5	4.2	3.8
9	6.5	4.7	5.2
10	6.0	0	5.2
11	5.9	5.0	4.7
12	5.2	5.0	4.7
13	5.2	4.7	0.3
14	7.7	0	4.9
15	5.8	0	0
16	10.6	4.7	4.6
17	3.4	4.7	5.2
18	4.4	1.7	0.6
19	0	0	5.2
20	4.9	0	0
21	2.0	2.1	0
22	11.3	0	0
23	5.4	1.0	0
24	5.8	-	2.3
25	4.7	-	2.5
26	3.3	5.0	0
27	10.4	5.1	5.2
28	3.3	1.9	4.7
29	0.8	2.4	4.7
30	8.2	2.1	5.2
31	6.7	2.4	0
32	6.6	0	0
33	6.7	0	0
34	3.7	4.9	0
35	0.9	4.9	3.3
36	7.8	4.9	0
37	6.2	0	0
38	7.1	0	0
39	2.2	0	0
40	9.2	0	0
41	3.1	0	1.2
42	3.2	0	0.9
43	3.2	0	0
44	5.1	0 (4.8)	0.9

Pin No.	IC8001	IC6001	IC6202
45	5.0	0	0
46	5.0	5.1	0
47	7.1	0	5.2
48	2.6	0.9 (0)	0
49	7.0	0	0
50	0	0	0
51	7.3	0	0
52	0	4.8	0
53	0	4.8	
54	0	0.4 (4.8)	
55	6.0	0 (5.0)	
56	3.2	0	
57	5.8	0	
58	4.8	0	
59	3.3	0	
60	6.0	0	
61	11.9	5.0	
62	6.0	5.0	
63	11.9	0	
64	8.0	0	

Voltage showing in ( ) are measured on the RECORD Mode.

Pin No.	IC7501	IC2001
1	0	2.3
2	0	2.1
3	5.9	2.4
4	5.9	5.0
5	5.9	2.5
6	0	2.5
7	0	2.6
8	0	2.0
9	11.8	3.0
10	0	3.0
11	11.8	0
12	5.9	2.5
13	5.9	2.5
14	5.9	2.5
15	1.2	
16	11.8	

Pin No.	IC3001	IC2002
1	-(0)	0.6
2	2.1 (0)	5.0
3	2.0 (2.4)	0
4	2.5	4.7
5	4.3 (2.6)	0
6	4.3 (2.6)	0.6
7	4.9	2.4
8	2.4	0
9	3.1 (4.9)	2.5
10	2.1	1.9
11	0	2.6
12	2.0	2.5
13	2.5	4.4 (2.8)
14	1.7	2.5
15	2.9	0
16	2.3	0
17	2.2	0
18	3.6	0.9
19	2.4 (3.2)	5.0
20	1.5	2.5
21	4.9	0
22	0	2.5
23	3.4	3.0
24	3.4	2.5
25	2.3	2.5
26	2.0	2.5
27	2.0	0
28	4.9	2.5 (2.7)
29	3.1	2.5 (2.9)
30	4.2	5.0
31	2.6	
32	0.6	
33	0	
34	2.0	
35	4.9	
36	0.7	
37	3.2	
38	1.4	
39	3.2	
40	3.6 (3.0)	
41	0.7	
42	2.3	

Pin No.	IC7201	IC4001
1	5.2	0
2	5.2	0
3	2.1	0
4	3.9	0
5	3.9	0
6	0	0.5
7	4.7	0
8	3.9	3.9
9	2.6	3.9
10	3.6	0 (0.6)
11	3.8	3.9
12	5.9	0
13	4.5	3.9
14	1.6	0
15	0	0
16	2.9	1.5
17	8.7	5.4
18	3.0	11.0
19	3.0	11.9
20	6.0	0
21	6.0	0
22	2.8	0
23	8.7	0
24	4.8	0 (5.0)

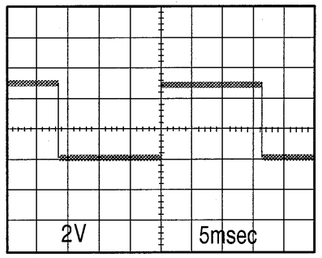
Voltage showing in ( ) are measured on the RECORD Mode.

Pin No.	IC6002	IC9001	IC1005	IC6201
1	0	0	13.2	.5.2
2	11.8	12.5	12.2	0
3	0.4	23.5	0	5.2
4	0	0.9	1.0	
5	0	0.7		
6	11.8	23.3		
7	0.4	1.2		
8	11.8			
9	0			

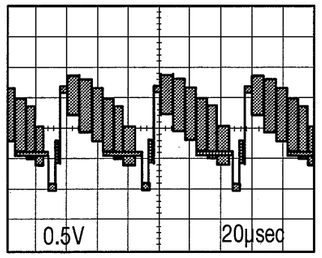
Pin No.	IC6203	IC4201	IC3002	IC3003	IC1001
1	0	10.1	4.0	0.9 (0)	1.1
2	0	0	0	0	1.0
3	0	0.5	4.8 (0.5)	4.8	0
4	0	0	1.6	1.6	0
5	5.2	0	0.2	0.2	1.9
6	5.2	0	2.4	2.4	17.5
7	0	0	1.1	1.1	2.0
8	5.2	0	9.0	9.0	3.5

Voltage showing in ( ) are measured on the RECORD Mode.

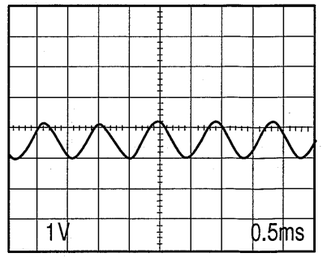
WAVEFORMS



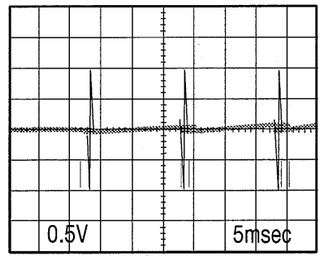
WF1



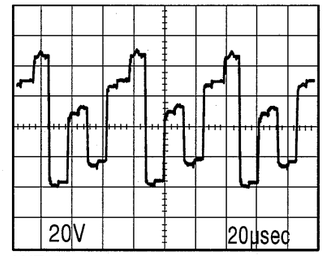
WF5



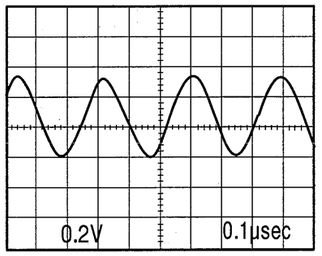
WF9



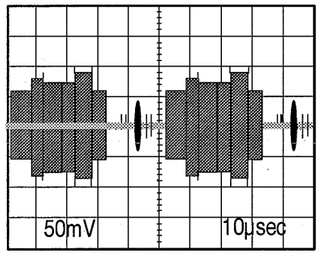
WF13



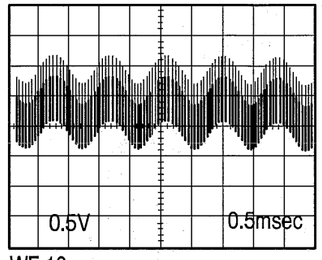
WF17



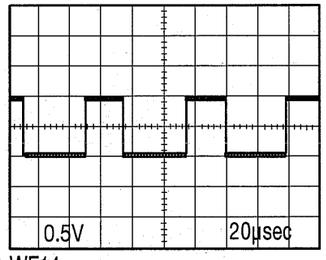
WF2



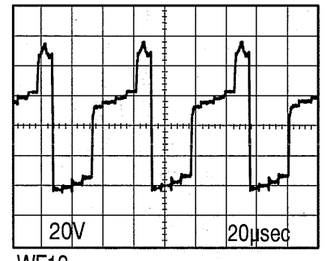
WF6



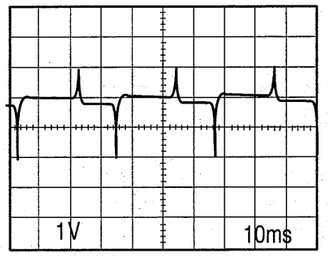
WF 10



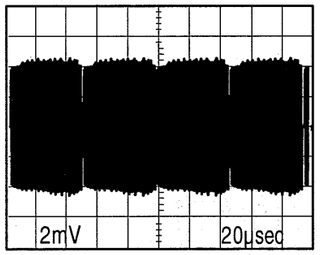
WF14



WF18



WF3



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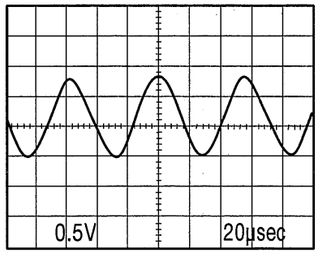

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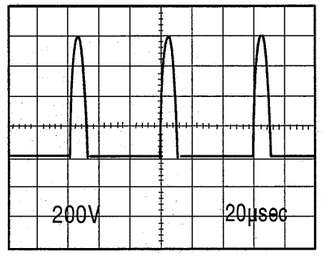

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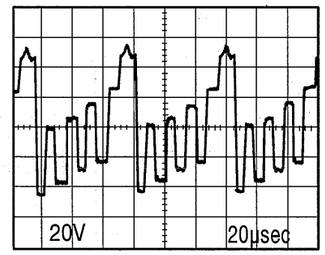

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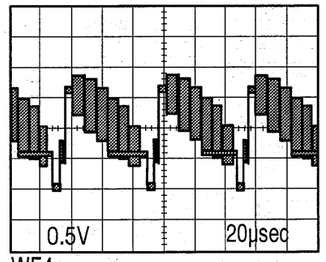

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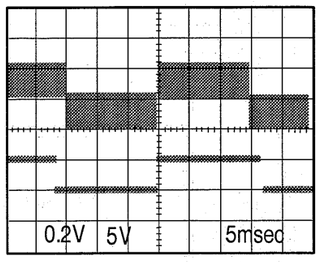

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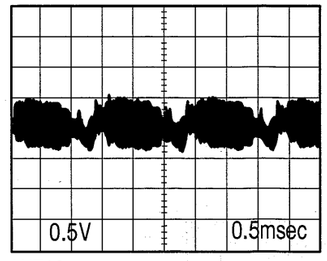

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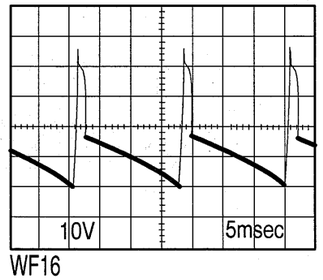
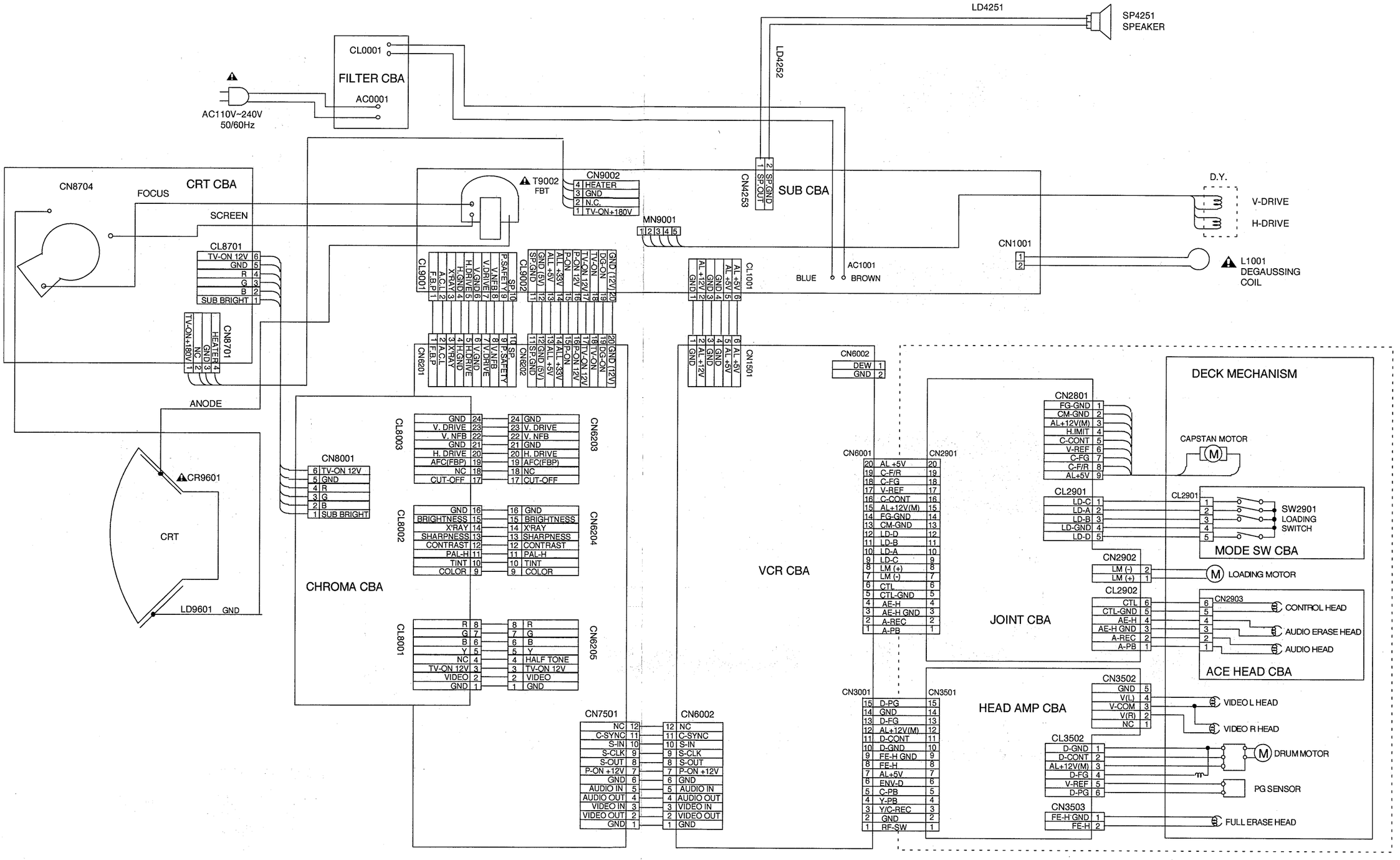


WF16

WAVEFORM NOTES:

★ Operation : Input PAL Color bar signal
Brightness : Center
Contrast : Center
Color : Center
Tint : Center

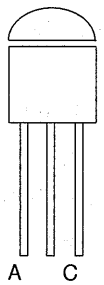
WIRING DIAGRAM



B7452WI

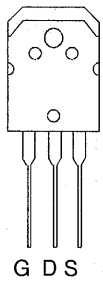
IC AND TRANSISTOR LEAD IDENTIFICATIONS

L5631



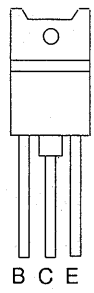
K: Cathode
A: Anode

2SK2039



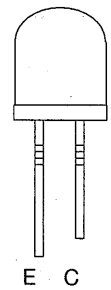
G: Gate
D: Drain
S: Source

2SD2331



E: Emitter
C: Collector
B: Base

RPT-38PB3F



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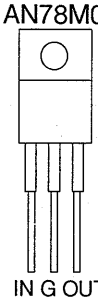
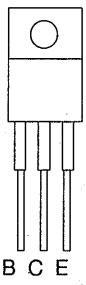
AN7812
AN78M05



2SB1274



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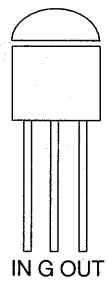
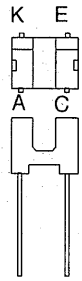
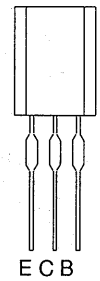


SG-211



K: Cathode
E: Emitter
A: Anode
C: Collector



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2SA608
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2SC536
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2SC3400
2SD400
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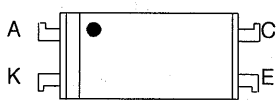
2SC3000
KTA1267
KTC3199
KRA109

PC120



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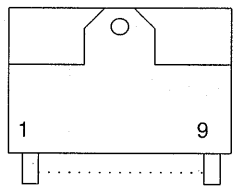

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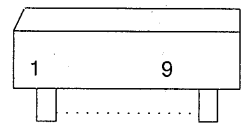

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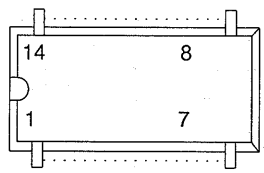

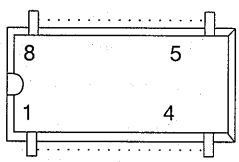

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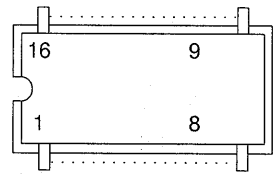
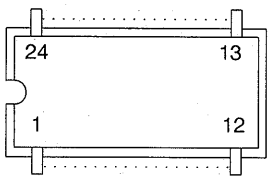


TC4053BP

TA8701AN



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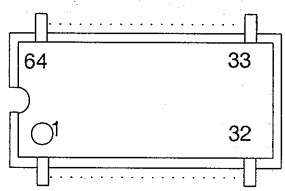

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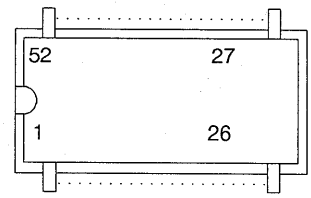


IC PIN FUNCTIONS

BU2845S

Pin. No.	In / Out	Signal Name	Function
1	I/O	PGMM	PC Mono Multi Terminal
2	I	VDD	Power Supply
3	O	SPBOUT1	Tape Speed Output
4	I	SDATA	Data Signal Input for transfer
5	I	SCLOCK	Clock Signal Input for Transfer
6	I	VSYNCIN	Vertical Synchronising Signal Input
7	I	FSCIN	Standard Clock Input
8	O	SPBOUT2	Tape Speed Output
9	O	DRUMFV	Drum Speed PWM Output
10	O	DRUMPV	Drum Phase PWM Output
11	O	CAPFV	Capstan Speed PWM Output
12	O	CAPPV	Capstan Phase PWM Output
13	O	PBCTOUT	Playback Control Signal Output
14	O	VHSW	Head Switching Output for Video
15	O	MODE OUT	Serial D11 Bit Output
16	O	VPULSE	VPULSE Output
17	-	N.C.	No Connection
18	I	NTSC	NTSC/PAL Switching Input
19	-	N.C.	No Connection
20	O	DCBIAS	Middle Level Output for Amp Lifier
21	I	VSS	GROUND
22	I	DFGIN	Drum FG Input
23	I	DPGIN	Drum PG Input
24	I	CFGIN	Capstan FG Input
25	I/O	BIAS / PONR	CTL Amp Bias Output / Power ON Reset
26	I/O	CTLAMP OUT	CTL Amp Output / CTL Conparator
27	I	VSSA	Ground for Analog
28	I	CTLAMPIN	CTL Amp Lifier AC Ground Input
29	I/O	RECCTL	CTL Head Terminal
30	I	VDDA	Power for Analog

LC89925

Pin. No.	In / Out	Signal Name	Function
1		P/N	Delaied Time Switching
2		VSS	Ground
3		VDD	Power Supply
4		OUT	Delaied Time Signal Output
5		NC	
6		IN	Signal Input
7		CLK	Clock Input
8		RD	Stepup Circuit Output

TA8701AN

Pin. No.	In / Out	Signal Name	Function
1		AGC FILTER	AGF Filter
2		AGC FILTER	AGF Filter
3		AGC DISPLAY	RF.AGC Delay Point Adjustment
4		PIF INPUT	PIF Signal Input
5		PIF INPUT	PIF Signal Input
6		PIF GND	PIF Ground
7		RF AGC OUTPUT	AGC Output Terminal
8		DEEMPHASYS	FM Descrimination Circuit Output
9		SIF COIL	Connection for Audio Descrimination Coil
10		SIF COIL	Connection for Audio Descrimination Coil
11		AUDIO INPUT	Input Terminal for Audio Amplifier
12		NF	Feedback Terminal for Audio Amplifier
13		AUDIO OUTPUT	Output Terminal for Audio
14		ATT	Gain Control for Audio Amplifier
15		SIF GND	GROUND

Pin. No.	In / Out	Signal Name	Function
16		SIF INPUT	SIF Input
17		SIF Vcc	Power Supply
18		VIDEO OUTPUT 1	SIF Output Picture Signal
19		VIDEO OUTPUT 2	Picture Output
20		VIDEO COIL	Connect for Video Descrimination Coil
21		VIDEO COIL	Connect for Video Descrimination Coil
22		AFT COIL	Connect for AFT Coil
23		PIF Vcc	Power Supply
24		AFT OUTPUT	AFT Output Terminal

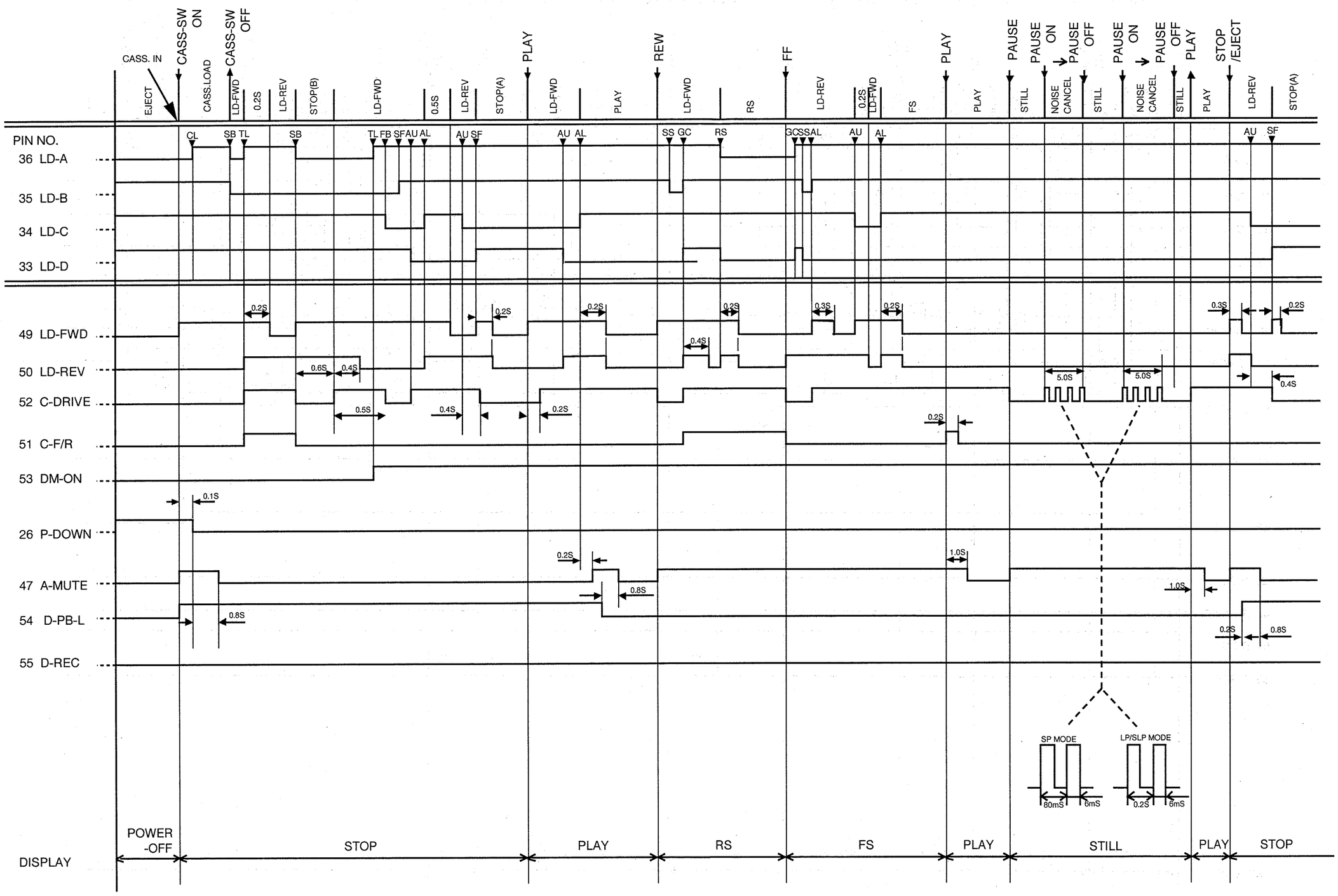
TA8759AN

Pin. No.	In / Out	Signal Name	Function
1		SB DEEMPHASIS	Connect for Secam De emphasis Filter
2		R-Y OUT	Color Difference Signal Output
3		SR DET. 1	Connect for Secam De emphasis Filter
4		SB DET. 1	Connect for Secam Descrimination Tank Coil
5		SB DET. 2	Connect for Secam Descrimination Tank Coil
6		Vcc	Power Supply
7		COLOR	Color Control Terminal
8		SR DET.2	Connect for Secam Descrimination Tank Coil
9		SR DET. 1	Connect for Secam Descrimination Tank Coil
10		SW1	Auto Mode / Manual Mode Control
11		SW2	Auto Mode / Manual Mode Control
12		DL OUT	Input Terminal for PAL / Secam color signal (1H Delay)
13		DC	DC Bias for PAL, NTSC Matrix Circuit
14		DL IN	Output Terminal for 1H Delay PAL, Secam color Signal
15		TINT CONT.	Control Terminal for Color
16		ACC FILTER	Connector for ACC Filter
17		DC FEED BACK	Connect for Feedback Filter
18		SECAM IN	Connect for Bell Filter
19		GND	GROUND
20		P/N IN VID	Input Terminal for PAL, NTSC Color Signal
21		SW3	Auto Mode / Manual Mode Control
22		P IDENT	Connect for Ident Filter
23		S IDENT	Connect for Ident Filter
24		S REF.	Connect for 4.328MHz Coil
25		APC	Connect for APC Filter
26		3.85 IN	Input for Crystal Oscillation
27		N IDENT	Connect for Ident Filter
28		4.43 IN	Input for Crystal Oscillation
29		V. DRIVE	Vertical Drive Output Terminal
30		VCO OUT	Crystal Oscillation Drive
31		V RAMP	Ramp Wave Output
32		V NFB	Vertical Output AC, DC Feedback
33		SYNC SEPA	Input for Holizontal / Vertical Separation Signal
34		G.P.TC	Gate Pulse Output
35		H BLK	Input for Blanking Pulse
36		AFC F	Connect for Holizontal AFC Filter
37		503KHz	32fH (503KHz) Oscillation Output
38		AFC IN	Holizontal AFC Circuit
39		H OUT	Holizontal Output Terminal
40		H Vcc	Power Supply for Holizontal Deflection
41		R OUT	RED Output
42		G OUT	Green Output
43		B OUT	Blue Output
44		R Clamp	Connect for Cramp Capacitor
45		G Clamp	Connect for Cramp Capacitor
46		B Clamp	Connect for Cramp Capacitor

Pin. No.	In / Out	Signal Name	Function
47		R_{TX} IN	ExternalRGB Signal Input Terminal
48		BRT	Brightness Control Terminal
49		G_{TX} IN	ExternalRGB Signal Input Terminal
50		GND	GROUND
51		B_{TX} IN	ExternalRGB Signal Input Terminal
52		X-ray	Protection Circuit for Over Voltage
53		TV/TX SW	TV Signal/RGB Signal Switching
54		HARF TONE	Harf Tone Switching
55		PICT CONT	Picture Control Terminal
56		PICT IN	
57		Y CLAMP	Connect for Clamp Capacitor
58		Y IN	Picture Signal Input
59		UNI COLOR	Uni-Color Control
60		R-YIN	Color Difference Signal Input Terminal
61		V_{CC}	Power Supply
62		B-YIN	Color Difference Signal Input Terminal
63		V_{CC}	Power Supply
64		B-Y OUT	Color Difference Signal Output

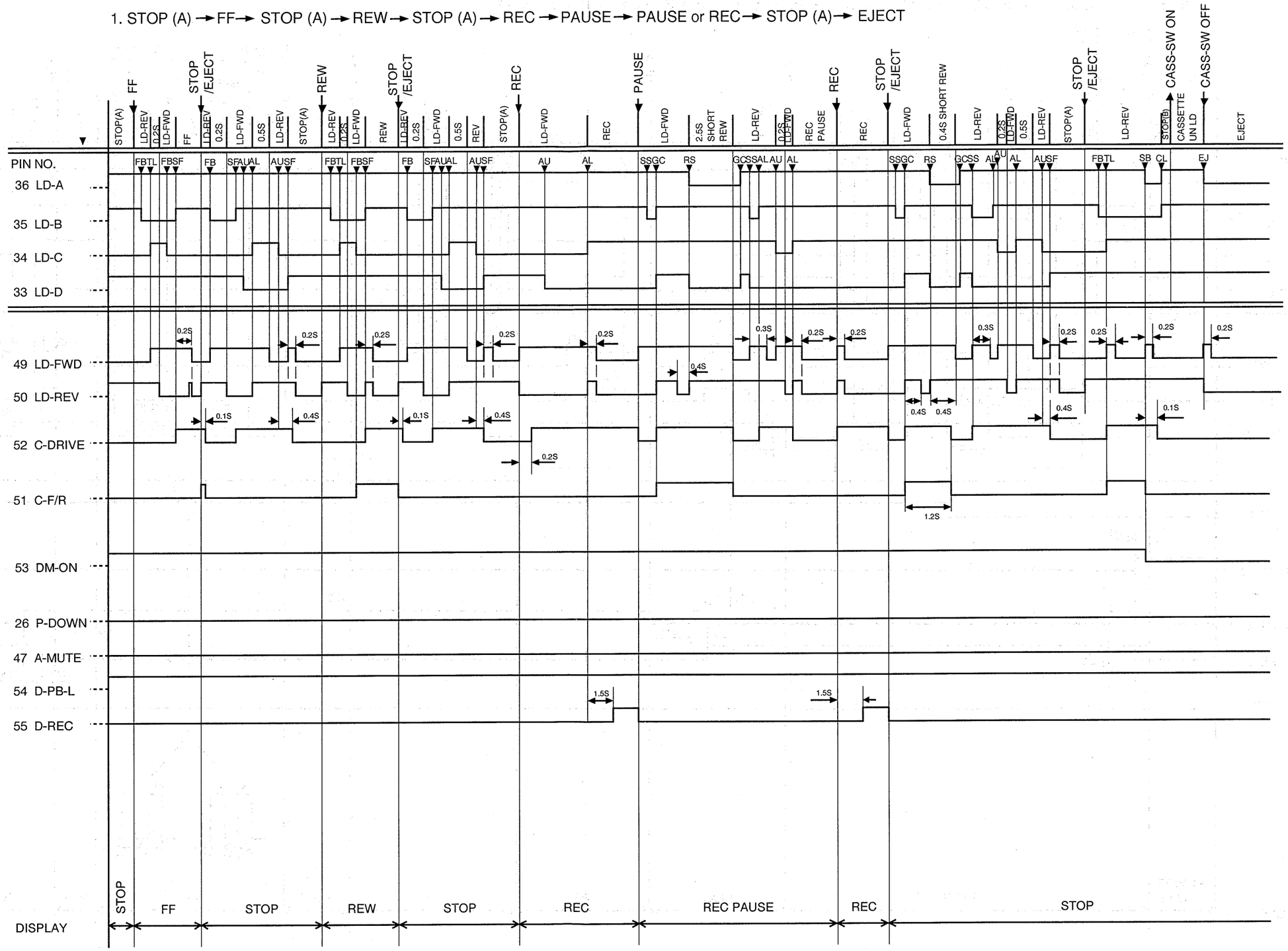
SYSTEM CONTROL TIMING CHART

1. EJECT→CASS.IN→STOP (B)→STOP (A)→PLAY→RS→FS→PLAY→STILL→PLAY→STOP (A)



B5422TI

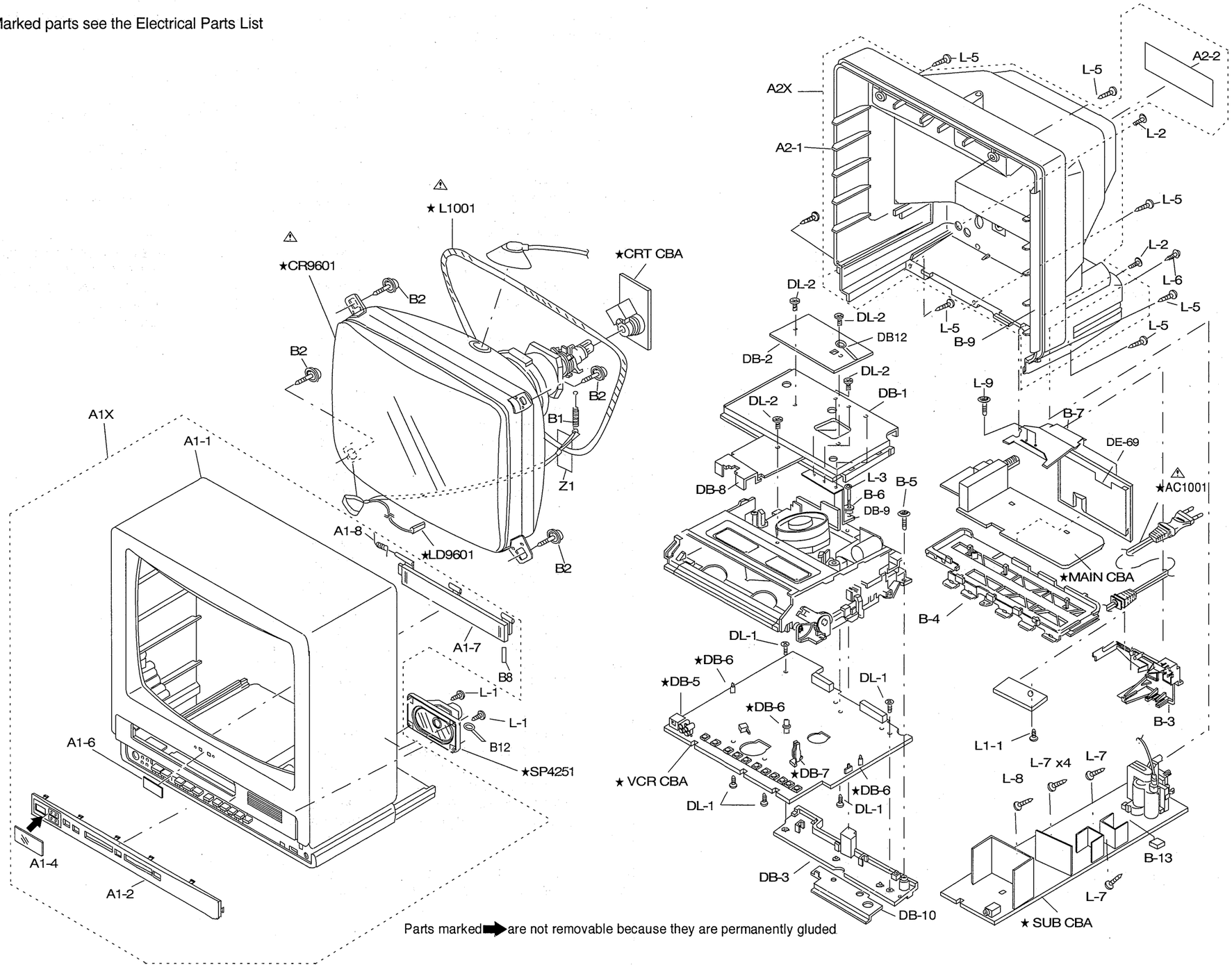
1. STOP (A) → FF → STOP (A) → REW → STOP (A) → REC → PAUSE → PAUSE or REC → STOP (A) → EJECT



B5422TI

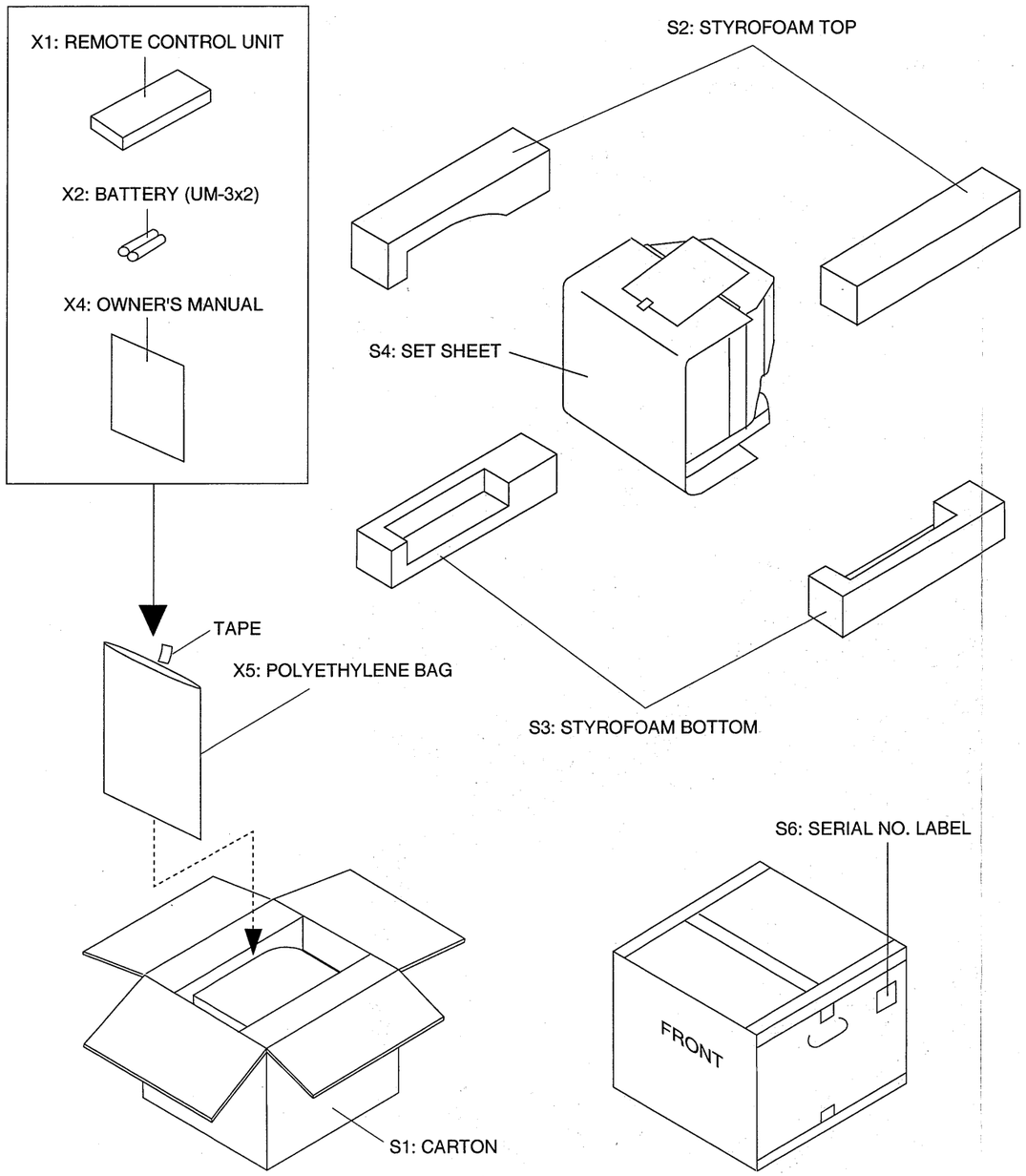
EXPLODED VIEW

*Marked parts see the Electrical Parts List



Parts marked ➡ are not removable because they are permanently gluded

PACKING EXPLODED VIEW



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that not assigned part numbers (----------) are not available.

Ref. No.	Description	Part No.
	DECK ASSEMBLY	N2102XN
A 1	FRONT CABINET ASSEMBLY	0EM100500
A 1-1	FRONT CABINET	0EM100501
A 1-2	CONTROL PLATE	OEM300690
A 1-6	BRAND BADGE	OEM400975
A 1-7	CASSETTE DOOR	OEM402083
A 1-8	DOOR SPRING	OVM403773
A2	REAR CABINET ASSEMBLY	0EM100502
A2 -1	REAR CABINET	OEM000130
A2- 2 ⚠	RATING LABEL	0EM402084
B 1	TENSION SPRING B0080B0:EM40808	26WH006
B 2	M6 CRT SCREW	0EM400995
B 3	AC CORD HOLDER	0EM200382
B 4 ⚠	PCB HOLDER	0EM200306
B 5	ASSEMBLED SCREW	0EM401646
B 6	INSULATION BUSH	0EM401778
B 7	PCB HOLDER CRM	0EM401932
B 8	CLOTH(D)	0VM401293
B 9	CLOTH	TS7623
B 12	COATING CLIP	5790147
B 13	SPACER	0EM401802
DB 1	TOP COVER	0EM200270
DB 2	SHIELD PLATE	0EM401637
DB 3 ⚠	VCR HOLDER	0EM200268
DB 5	HOLDER, L.E.D.	0VM403653
DB 6	BUSH, LED	6N50114
DB 7	HOLDER, REEL SENSOR	0VM200965B
DB 8	DECK HOLDER	0EM401758
DB 10	SHIELD COVER	0EM401777
DB 12	COATING CLIP	5790147
L 1	SCREW, P-TIGHT 3X10 CUP+	GFMP3100
L 2	SCREW, P-TIGHT BIND HEAD 3X12	GBKP3120
L 3	SCREW, P-TIGHT BIND HEAD 3X48	GBMP3480
L 5	SCREW, P-TIGHT BIND HEAD 4X18	GBKP4180
L 6	SCREW, TAPPING BIND HEAD 4X14	DBK14140
L 7	SCREW, B-TIGHT BIND HEAD 3X8	GBMB3080
L 8	SCREW, B-TIGHT BIND HEAD 3X10	GBMB3100
L 9	SCREW, S-TIGHT BIND HEAD 3X6	GBMS3060
DL 1	SCREW, P-TIGHT BIND HEAD 3X8	GBMP3080
DL 2	SCREW, S-TIGHT BIND HEAD 3X4	GBMS3040

Ref. No.	Description	Part No.
S 1	CARTON	0EM402662
S 2	STYROFOAM TOP	0VM100393
S 3	STYROFOAM BOTTOM	0EM100394
S 4	SET SHEET	0EM402178
S 5	SERIAL NO. LABEL V5279	24LH033
X 1	REMOTE CONTROL UNIT(NO BRAND)	UREMT29MM002
X 2	DRY BATTERY UM3/RS6 2PCS PACK	579W099
	DRY BATTERY UM3/RS6 2PCS PACK	1790849
	DRY BATTERY UM3/RS6 2PCS PACK	1813020
X 4 ⚠	OWNER'S MANUAL	0EMN00794
X 5	POLYETHYLENE BAG	Z325350

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that not assigned part numbers (----------) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% F.....±1% J.....±5% M.....±20% Z.....+80/-20%
G.....±2% K.....±10% N.....±30%

MMA-110D(MAIN) CBA

Ref. No.	Description	Part No.
	MMA-110B(MAIN) CBA	MMA-110D
	Consists of the following:	
⚠	MAIN PCB	BB5400F01002D
	MAIN CBA	----------
	SUB CBA	----------
	CRT CBA	----------
	FILTER CBA	----------
	CHROMA CBA	----------

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA	----------
	Consists of the following:	
	CAPACITORS	
C 4201	ELECTROLYTIC CAP. 470μF/16V M	126C477S
C 4202	CHIP CERAMIC CAP. F Z 0.047μF/25V	CHE1EZ80F473
C 4203	ELECTROLYTIC CAP. 330μF/6.3V M	126A337
C 4204	ELECTROLYTIC CAP. 100μF/16V M or	126C107S
	ELECTROLYTIC CAP. 100μF/16V M	122Z313S
C 4205	STACKED FILM CAP. 0.22μF/50V J or	125U224S
	STACKED FILM CAP. 0.22μF/50V J	122Z313S
C 4206	STACKED FILM CAP. 0.22μF/50V J or	125U224S
	STACKED FILM CAP. 0.22μF/50V J	122Z313S
C 4207	ELECTROLYTIC CAP. 470μF/16V M	126C477S
C 4251	ELECTROLYTIC CAP. 330μF/6.3V M	126A337S
C 6201	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 6202	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 6203	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 6204	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 6205	CHIP CERAMIC CAP. B K 0.001μF/50V	CHE1JK80B102
C 6206	ELECTROLYTIC CAP. 1000μF/6.3V M W/F	626A108
	ELECTROLYTIC CAP. 1000μF/6.3V M W/F	CE0KMZNTL102
	ELECTROLYTIC CAP. 1000μF/6.3V M W/F	CE0KMZDDL102
C 6207	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 6212	ELECTROLYTIC CAP. 1μF/50V M	126F105S
C 6213	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 6214	CERAMIC CAP. SL J 220pF/50V	3B42221S
C 6215	ELECTROLYTIC CAP. 100μF/6.3V M	126A107S
C 6216	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 6217	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 6218	CHIP CERAMIC CAP. CH J 24pF/50V	CHE1JJ8CH240
C 6219	CHIP CERAMIC CAP. CH J 24pF/50V	CHE1JJ8CH240
C 6220	CERAMIC CAP. SL J 220pF/50V	3B42221S
C 6221	CERAMIC CAP. SL J 220pF/50V	3B42221S
C 6223	CHIP CERAMIC CAP. B K 560pF/50V	CHE1JK80B561
C 6224	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 6227	CHIP CERAMIC CAP. B K 0.033μF/25V	CHE1EK80B333
C 6230	CHIP CERAMIC CAP. SL J 220pF/50V	CHE1JJ8SL221
C 6231	ELECTROLYTIC CAP. 2.2μF/50V M	126F225S
C 6232	STACKED FILM CAP. 0.15μF/50V J or	125U154S
	STACKED FILM CAP. 0.15μF/50V J	122Z311S
C 6233	SEMICONDUCTOR CAP. 0.01μF/25V K	12Y2103
C 6234	CERAMIC CAP. 1000pF/50V	3B42102S
C 6290	CERAMIC CAP. 0.1 μF/50V (K)	3F40104
C 7001	ELECTROLYTIC CAP. 1μF/50V M	126F105S
C 7002	ELECTROLYTIC CAP. 47μF/16V M	126C476S
C7005	STACKED FILM CAP. 0.15μF/50V J or	125U154S
	STACKED FILM CAP. 0.15μF/50V J	122Z311S
C 7006	STACKED FILM CAP. 0.15μF/50V J or	125U154S
	STACKED FILM CAP. 0.15μF/50V J	122Z311S
C 7007	STACKED FILM CAP. 0.15μF/50V J	125U154S
C 7008	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C 7009	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 7010	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C 7011	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C7012	CERAMIC CAP. 1000pF/50V	3B42102S
C 7201	ELECTROLYTIC CAP. 330μF/16V M	126C337S
C 7202	CHIP CERAMIC CAP. F Z 0.033μF/50V	CHE1JZ80F333
C 7204	ELECTROLYTIC CAP. 47μF/16V M	126C476S
C 7205	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 7206	CHIP CERAMIC CAP. CH J 18pF/50V	CHE1JJ8CH180
C 7207	CHIP CERAMIC CAP. CH D 3pF/50V	CHE1JD8CH3R0
C 7208	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJ8SL220
C 7209	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJ8SL330
C 7210	CHIP CERAMIC CAP. SL J 27pF/50V	CHE1JJ8SL270
C 7212	CHIP CERAMIC CAP. B K 0.056μF/16V	CHE1CK80B563
C 7213	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 7214	ELECTROLYTIC CAP. 0.47μF/50V M	126F474S
C 7215	CHIP CERAMIC CAP. B K 0.056μF/16V	CHE1CK80B563
C 7216	CHIP CERAMIC CAP. B K 0.018μF/50V	CHE1JK80B183
C 7218	ELECTROLYTIC CAP. 1μF/50V M	126F105S
C 7219	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJ8SL330
C 7220	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJ8SL330
C 7221	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103

Ref. No.	Description	Part No.
C 7222	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZ80F103
C 7223	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZ80F103
C 7224	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZ80F103
C 7225	CHIP CERAMIC CAP. B K 0.022µF/16V	CHE1CK80B223
C 7226	ELECTROLYTIC CAP. 1µF/50V M	126F105S
C 7227	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZ80F103
C 7228	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZ80F103
C 7229	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZ80F103
C 7230	ELECTROLYTIC CAP. 10µF/50V M	126F106S
C 7231	CHIP CERAMIC CAP. SL J 15pF/50V	CHE1JJ8SL150
C 7240	ELECTROLYTIC CAP. 47µF/6.3V M	126A476
C 7241	CERAMIC CAP. 0.01µF/25V	3F45103S
C 7501	ELECTROLYTIC CAP. 47µF/16V M	126C476S
C 7502	ELECTROLYTIC CAP. 10µF/50V M	126F106S
C 7503	ELECTROLYTIC CAP. 10µF/50V M	126F106S
C 7504	ELECTROLYTIC CAP. 1µF/50V M	126F105S
C 7505	ELECTROLYTIC CAP. 1µF/50V M	126F105S
C 7506	ELECTROLYTIC CAP. 1µF/50V M	126F105S
C 7507	ELECTROLYTIC CAP. 47µF/16V M	126C476S
C 7509	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZ80F223
	CONNECTORS	
CN4253	STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN6201	CONNECTOR BASE, 10P 10R-FJ	1700955
CN6202	CONNECTOR BASE, 10P 10R-FJ	1700955
CN6203	CONNECTOR BASE, 8P	JC8BC08ER001
CN6204	CONNECTOR BASE, 8P	JC8BC08ER001
CN6205	CONNECTOR BASE, 8P	JC8BC08ER001
CN7201	FJ CONNECTOR BASE 12R-FJ(12 PIN)	1700843
	DIODES	
D 4201	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 4202	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 4203	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 6201	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 6202	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 6203	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 6206	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 6207	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176S	1SS176S
D 7002	ZENNER DIODE UZ-7.5BSB	QDSB0UZ7R5BS
D 7003	ZENNER DIODE UZ-7.5BSB	QDSB0UZ7R5BS
D 7004	ZENNER DIODE UZ-7.5BSB	QDSB0UZ7R5BS
D 7590	DIODE 1SS176 or	1SS176
	DIODE 1N4148M	QDQZ01N4148M
	ICS	
IC4201	IC TDA7231A	NSBLA0SSS001
IC6201	IC:RESET PST-529C-2 R59-1396	14D0665Z
IC6202	IC M37211M2-505SP	QSMQB0SMB031
IC6203	IC ST24C01B1	NSMMA0ZSS002
	IC ST24C01B1	NSMMA0SXC002
IC6204	IC L5631	L5631
IC7201	IC TA8701AN	QSBLA0ZTS036
IC 7501	IC TC4053BP or	14DW168

Ref. No.	Description	Part No.
	IC NJU4053BD or	14D0436
	IC MC14053BCP	14D0168
	COILS	
L 6201	MICRO INDUCTOR 39µH(J)	2164390S
L 7201	CASING COIL SA-3066 or	LFA07V0MM036
	CASING COIL SA-3066	LFA07V0TK026
L 7202	CASING COIL SA-3066 or	LFA07V0MM036
	CASING COIL SA-3066	LFA07V0TK026
L 7203	MICRO INDUCTOR 10µH	2165100S
L 7204	MICRO INDUCTOR 10µH	2165100S
L 7205	MICRO INDUCTOR 1µH-K	2162109
L 7206	MICRO INDUCTOR 0.68µH	2162688S
L 7207	MICRO INDUCTOR 56µH	2164560S
	TRANSISTORS	
Q 6201	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 6202	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 6203	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 6204	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 6205	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 7002	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 7003	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP

Ref. No.	Description	Part No.
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 7004	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 7201	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 7202	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 7203	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 7206	TRANSISTOR 2SC3000E or	2SC3000E-AA-NP
	TRANSISTOR 2SC3000D	2SC3000D-AA-NP
Q 7502	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
	RESISTORS	
R 4201	METAL RES. 1W J 5.6 Ω or	RN01569KA015
	METAL RES. 1W J 5.6 Ω or	RN01JZDZ05R6
	METAL RES. 1W J 5.6 Ω	539A569
R 4203	METAL RES. 1W J 5.6 Ω or	RN01569KA015
	METAL RES. 1W J 5.6 Ω or	RN01JZDZ05R6
	METAL RES. 1W J 5.6 Ω	539A569
R 4204	CARBON RES. 1/4W J 4.7 Ω	RCX4JASZ04R7
R 4252	METAL RES. 2W J 0.56 Ω or	RN02R56KA015
	METAL RES. 2W J 0.56 Ω or	RN02JZDZ0R56
	METAL RES. 2W J 0.56 Ω	534B568
R 6201	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6202	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 6203	CHIP RES. 1/10W J 8.2K Ω or	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 6204	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 6205	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6206	CHIP RES. 1/10W J 12K Ω or	RRXAJR8Z0123
	CHIP RES. 1/10W J 12K Ω	134F123C
R 6207	CHIP RES. 1/10W J 8.2K Ω or	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 6208	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562
R 6209	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 6210	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6211	CARBON RES. 1/6W J 8.2K Ω	132A822T
R 6212	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562C
R 6213	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 6214	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 6215	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6216	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472
	CHIP RES. 1/10W J 4.7K Ω	134F472C
R 6217	CHIP RES. 1/10W J 1.5K Ω or	RRXAJR8Z0152
	CHIP RES. 1/10W J 1.5K Ω	134F152C
R 6218	CHIP RES. 1/10W J 68K Ω or	RRXAJR8Z0683
	CHIP RES. 1/10W J 68K Ω	134F683C
R 6219	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6220	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6221	CHIP RES. 1/10W J 2.7K Ω or	RRXAJR8Z0272
	CHIP RES. 1/10W J 2.7K Ω	134F272C
R 6222	CHIP RES. 1/10W J 1.5K Ω or	RRXAJR8Z0152
	CHIP RES. 1/10W J 1.5K Ω	134F152C
R 6223	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472
	CHIP RES. 1/10W J 4.7K Ω	1345472C
R 6224	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6225	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6226	CARBON RES. 1/6W J 47K Ω	132A473T
R 6227	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6228	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6230	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6231	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6232	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 6234	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6235	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6236	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6237	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6239	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 4.7K Ω	134F472C
R 6241	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6242	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6243	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6244	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6245	CHIP RES. 1/10W J 560 Ω or	RRXAJR8Z0561
	CHIP RES. 1/10W J 560 Ω	134F561C
R 6246	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6249	CHIP RES. 1/10W J 8.2K Ω or	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 6251	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6252	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6253	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 6254	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472
	CHIP RES. 1/10W J 4.7K Ω	134F472C
R 6255	CHIP RES. 1/10W J 68K Ω or	RRXAJR8Z0683
	CHIP RES. 1/10W J 68K Ω	134F683C
R 6256	CHIP RES. 1/10W J 0 Ω	RRXAJR8Z0000
R 6257	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 6258	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6259	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6260	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6262	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6263	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6270	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6271	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 6272	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 6273	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 6274	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 6275	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 6276	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6277	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6279	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6280	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6281	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6282	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 6283	CARBON RES. 1/6W J 1K Ω	132A102T
R 7003	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 7004	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 7005	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7006	CHIP RES. 1/10W J 22K Ω or	RRXAJR8Z0223
	CHIP RES. 1/10W J 22K Ω	134F223C
R 7009	CHIP RES. 1/10W J 22K Ω or	RRXAJR8Z0223
	CHIP RES. 1/10W J 22K Ω	134F223C
R 7011	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 7012	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 7013	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 7014	CHIP RES. 1/10W J 22K Ω or	RRXAJR8Z0223
	CHIP RES. 1/10W J 22K Ω	134F223C
R 7015	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 7016	CHIP RES. 1/10W J 0 Ω	RRXAJR8Z0000
R 7017	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 7201	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 7202	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7203	CHIP RES. 1/10W J 150K Ω or	RRXAJR8Z0154
	CHIP RES. 1/10W J 150K Ω	134F154C
R 7204	CHIP RES. 1/10W J 150K Ω or	RRXAJR8Z0154
	CHIP RES. 1/10W J 150K Ω	134F154C
R 7205	CHIP RES. 1/10W J 820 Ω or	RRXAJR8Z0821
	CHIP RES. 1/10W J 820 Ω	134F821C
R 7206	CHIP RES. 1/10W J 820 Ω or	RRXAJR8Z0821
	CHIP RES. 1/10W J 820 Ω	134F821C
R 7207	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562C
R 7209	CHIP RES. 1/10W J 120 Ω or	RRXAJR8Z0121
	CHIP RES. 1/10W J 120 Ω	134F121C
R 7210	CHIP RES. 1/10W J 560 Ω or	RRXAJR8Z0561
	CHIP RES. 1/10W J 560 Ω	134F561C
R 7211	CHIP RES. 1/10W J 1.5K Ω or	RRXAJR8Z0152
	CHIP RES. 1/10W J 1.5K Ω	134F152C
R 7212	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 7213	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7214	CHIP RES. 1/10W J 3.3K Ω or	RRXAJR8Z0332
	CHIP RES. 1/10W J 3.3K Ω	134F332C
R 7215	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 7217	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7218	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C

Ref. No.	Description	Part No.
R 7222	CHIP RES. 1/10W J 3.9K Ω or	RRXAJR8Z0392
	CHIP RES. 1/10W J 3.9K Ω	134F392C
R 7223	CHIP RES. 1/10W J 330 Ω or	RRXAJR8Z0331
	CHIP RES. 1/10W J 330 Ω	134F331C
R 7224	CHIP RES. 1/10W J 180 Ω	RRXAJR8Z0181
	CHIP RES. 1/10W J 180 Ω	134F181C
R 7225	CHIP RES. 1/10W J 180 Ω or	RRXAJR8Z0181
	CHIP RES. 1/10W J 180 Ω	134F181C
R 7226	CHIP RES. 1/10W J 330 Ω or	RRXAJR8Z0331
	CHIP RES. 1/10W J 330 Ω	134F331C
R 7227	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 7228	CHIP RES. 1/10W J 27K Ω or	RRXAJR8Z0273
	CHIP RES. 1/10W J 27K Ω	134F273C
R 7230	CHIP RES. 1/10W J 1.5K Ω	RRXAJR8Z0152
R 7231	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 7232	CHIP RES. 1/10W J 330 Ω or	RRXAJR8Z0331
	CHIP RES. 1/10W J 330 Ω	134F331C
R 7233	CHIP RES. 1/10W J 560 Ω or	RRXAJR8Z0561
	CHIP RES. 1/10W J 560 Ω	134F561C
R 7234	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562C
R 7235	CHIP RES. 1/10W J 33 Ω or	RRXAJR8Z0330
	CHIP RES. 1/10W J 33 Ω	134F330C
R 7236	CHIP RES. 1/10W J 1.5K Ω or	RRXAJR8Z0152
	CHIP RES. 1/10W J 1.5K Ω	134F152C
R 7237	CHIP RES. 1/10W J 82 Ω or	RRXAJR8Z0820
	CHIP RES. 1/10W J 82 Ω	134F820C
R 7239	CHIP RES. 1/10W J 3.3K Ω or	RRXAJR8Z0332
	CHIP RES. 1/10W J 3.3K Ω	134F332C
R 7241	CHIP RES. 1/10W J 0 Ω	RRXAJR8Z0000
R 7242	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7245	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562C
R 7246	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472
	CHIP RES. 1/10W J 4.7K Ω	134F472C
R 7247	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 7248	CHIP RES. 1/10W J 12K Ω or	RRXAJR8Z0123
	CHIP RES. 1/10W J 12K Ω	134F123C
R 7249	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 7250	CHIP RES. 1/10W J 270 Ω or	RRXAJR8Z0271
	CHIP RES. 1/10W J 270 Ω	134F271C
R 7251	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7253	CHIP RES. 1/10W J 150 Ω or	RRXAJR8Z0151
	CHIP RES. 1/10W J 150 Ω	134F150C
R 7290	CARBON RES. 1/6W J 4.7KΩ	132A472
R 7501	CARBON RES. 1/6W J 56 Ω	132A560T
R 7502	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7503	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7504	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7505	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C

Ref. No.	Description	Part No.
R 7506	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7509	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 7511	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 7512	CHIP RES. 1/10W J 22K Ω or	RRXAJR8Z0223
	CHIP RES. 1/10W J 22K Ω	134F223C
R 7513	CHIP RES. 1/10W J 22K Ω or	RRXAJR8Z0223
	CHIP RES. 1/10W J 22K Ω	134F223C
R 7514	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 7515	CHIP RES. 1/10W J 0 Ω	RRXAJR8Z0000
R 7516	CHIP RES. 1/10W J 75 Ω or	RRXAJR8Z0750
	CHIP RES. 1/10W J 75 Ω	134F750C
R 7522	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7525	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7526	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 7590	CARBON RES. 1/6W J 150K Ω	132A154
	MISCELLANEOUS	
	HEAT SINK SHEET or	XJ0Z000CA002
	HEAT SINK SHEET	XJ0Z000DB001
	LEAD CLAMPER	1790356
HS 1	HEAT SINK (PAQ) ASSEMBLY	0EM300671
HS 4	HEAT SINK(PAL)	0EM401697
HS 3	HEAT SINK(PAM)	0EM401698
HS 2	HEAT SINK(PAN)ASSEMBLY	0EM401773
CF7201	CERAMIC TRAP TPW02B	FBE655PMR002
CF7202	CERAMIC FILTER SFE5.5MBF	1812018
CF7203	CARAMIC FILTER SFE6.5MB	1813595
CF7204	CERAMIC DISCRIMINATOR CDSH 5.5MC38	FBB555PMR001
CF7205	CERAMIC DISCRIMINATOR CDSH 6.5MC38	FBB655PMR001
CF7210	CERAMIC FILTER MKT39.5MA100P	FBE3969MR001
CL6501	WIRE ASSEMBLY 4P	WX1B5400-010
DE 69	CRM PCB SHIELD PLATE	0EM300667
JK7501	BNC JACK HXC0328-01-010 or	JXNL010HD002
	BNC JACK	JXNL010BA002
JK7502	RCA JACK YKC21-3515	JXRL010JC001
LD1010	LEAD WIRE 060/BROWN/AWG22#1672	WX3101G2FF06
LD4210	WIRE 035/WHI/AWG26#1007	WX3901A6FF04
LD6210	LEAD WIRE UL1007 AWG24 140MM	WX3001A4FF14
LD7210	WIRE 013/BLA/AWG26#1007	WX3001A6FF04
LD7211	WIRE 028/RED/AWG26#1007	WX3901A6FF04
LD7212	WIRE 040/BLUE/AWG26#1007	WX3601A6FF04
SF7201	SAW FILTER KAF-38.0 MR-MH	FBB386PKC001
TP7201	TEST PIN SJT-743-3	1740354
TP7202	TEST PIN SJT-743-3	1740354
TP7203	TEST PIN SJT-743-3	1740354
TP7204	TEST PIN SJT-743-3	1740354
TP7205	TEST PIN SJT-743-3	1740354
TU7001	TUNER UNIT ENV-59875F2	UTUNPSDMS005
VR7201	CARBON POTENTIOMETER 10K Ω B or	138J781
	CARBON POTENTIOMETER 10K Ω B	638A103
XT6201	CERAMIC RESONATOR 8MHZ	FY0805SMS001

Ref. No.	Description	Part No.

SUB CBA

Ref. No.	Description	Part No.
	SUB CBA Consists of the following:	———
	CAPACITORS	
C 1001 ⚠	LINE ACROSS CAP.. 0.1μF/250V or	CT2E104NC011
	LINE ACROSS CAP.0.1μF/250V or	122Z181
	LINE ACROSS CAP. 0.1μF/250V	622Z631
C 1002 ⚠	CERAMIC CAP 0.0047μF AC125Vor	6220885
	CERAMIC CAP 0.0047μF AC125V	CCG2HMPOE472
C 1003 ⚠	CERAMIC CAP 0.0047μF AC125V or	6220885
	CERAMIC CAP 0.0047μF AC125V	CCG2HMPOE472
C 1004 ⚠	CERAMIC CAP 0.0047μ AC125V or	6220885
	CERAMIC CAP 0.0047μF AC125V	CCG2HMPOE472
C 1005 ⚠	CERAMIC CAP 0.0047μF AC125V or	6220885
	CERAMIC CAP 0.0047μF AC125V	CCG2HMPOE472
C 1006	STACKED FILM CAP.0.33μF/50V J or	122Z315S
	STACKED FILM CAP.0.33μF/50V J	125U334S
C 1007	*MYLAR CAP. 0.068μF/50V K	2250683S
C 1008	ELECTROLYTIC CAP. 100μF/25V M	626D107S
C 1009	CHIP CERAMIC CAP. B K 0.001μF/50V	CHE1JK80B102
C 1010	MYLAR CAP. 0.0068μF/50V K	2250682S
C 1013	ELECTROLYTIC CAP. 150μF/400V _(LQ TYPE)	CA2H151NC013
	ELECTROLYTIC CAP.150μF/400V (LKTYPE)	122Z020
C 1014	CERAMIC CAP. 1000pF/1KV or	CCD3AKP0B102
	CERAMIC CAP. 1000pF/1KV	6220574
C 1015 ⚠	CERAMIC CAP. 0.0022μF/4KV KD TYPEor	122Z011
	CERAMIC CAP. 0.0022μF/4KV KD TYPE	CCN2HMPOE222
C 1016	CERAMIC CAP. 100pF/1KV or	CCD3AKP0B101
	CERAMIC CAP. 100pF/1KV	6220570
C 1018	ELECTROLYTIC CAP. 4700μF/16V M W/F	626C478
C 1019	ELECTROLYTIC CAP. 100μF/160V M(105C)	CA2C101NC009
	ELECTROLYTIC CAP. 100μF/160V M(105C)	CAECMZDEHC101
C1020	ELECTROLYTIC CAP.1000μF/16V or	CE1CMZNTL102
	ELECTROLYTIC CAP.1000μF/16V or	CE1CMZDDL102
	ELECTROLYTIC CAP.1000μF/16V	626C108
C 1021	ELECTROLYTIC CAP.47μF/160V M W/F or	CE2CMZNTL470
	ELECTROLYTIC CAP.47μF/160V M W/F	CE2CMZDDL470
C1022	CERAMIC CAP. 470pF/50V	3B42471S
C1023	ELECTROLYTIC CAP.2200μF/16V or	CE1CMZNTL222
	ELECTROLYTIC CAP.2200μF/16V or	CE1CMZDDL222
	ELECTROLYTIC CAP.2200μF/16V	626C228
C1024	ELECTROLYTIC CAP.1000μF/6.3V or	CE0KMZNTL102
	ELECTROLYTIC CAP.1000μF/6.3V or	CE0KMZDDL102
	ELECTROLYTIC CAP.1000μF/6.3V	626A108
C1025	CERAMIC CAP.220pF/50V	3B42221S
C1026	ELECTROLYTIC CAP.3300μF/25V or	CE1EMZNTL332
	ELECTROLYTIC CAP.3300μF/25V or	CE1EMZDDL332
	ELECTROLYTIC CAP.3300μF/25V	626D338
C1027	ELECTROLYTIC CAP.470μF/16V	126C477
C1029	ELECTROLYTIC CAP.100μF/6.3V	126A107
C1032	CERAMIC CAP. 220pF/1KV or	CCD3AKP0B221
	CERAMIC CAP. 220pF/1KV	6220486
C1033	ELECTROLYTIC CAP.33μF/50V	126F336
C1035	ELECTROLYTIC CAP.4.7μF/50V	126F475
C1038	ELECTROLYTIC CAP.1μF/50V	126F105
C1050	CERAMIC CAP. 220pF/1KV	CCN2HMP0E152
C9001	MYLAR CAP. 0.0022μF/50V K	2250222S
C9002	MYLAR CAP. 0.1μF/50V K	2250104S
C9003	MYLAR CAP. 0.0012μF/50V K	2250122S
C9004	CERAMIC CAP. 47pF/50V	CHE1J8SL470
C9005	CERAMIC CAP. 1000pF/50V	3B42102S
C9006	ELECTROLYTIC CAP.100μF/50V	126F107
C9008	ELECTROLYTIC CAP.10μF/50V	126F106S
C9009	ELECTROLYTIC CAP.2.2μF/50V	126F225S
C9010	ELECTROLYTIC CAP.2200μF/16V or	CE1CMZNTL222
	ELECTROLYTIC CAP.2200μF/16V or	CE1CMZDDL222
	ELECTROLYTIC CAP.2200μF/16V	626A228
C9011	ELECTROLYTIC CAP.150μF/400V or	CE2EMZDDH010
	ELECTROLYTIC CAP.150μF/400V or	CE2EMZDEH010
	ELECTROLYTIC CAP.150μF/400V	CA2E010NC009
C 9012	METALLIZED FILM CAP. 0.68μF/200V Jor	1220513
	METALLIZED FILM CAP. 0.68μF/200V J or	122Z258
	METALLIZED FILM CAP. 0.68μF/200V J	CBP2DKD00684
C 9013	STACKED FILM CAP. 0.22μF/50V J or	125U224S
	STACKED FILM CAP. 0.22μF/50V J	122Z313S
C 9015	CHIP CERAMIC CAP. SL J 330pF/50V	CHE1JJ8SL331
C 9016	CERAMIC CAP. B K 2200pF/500V	CCD2JKS0B222
C 9017	ELECTROLYTIC CAP. 1μF/100V M or	CE2AMZDDL010
	ELECTROLYTIC CAP. 1μF/100V M	CE2AMZNTL010
C 9018	CERAMIC CAP. BN 1000pF/2KV or	CCD3DKP0B102
C 9019	METALLIZED FILM CAP. 0.0068μF/1.6KV J	1220498
	METALLIZED FILM CAP. 0.0068μF/1.6KV J	122Z283
C 9021	ELECTROLYTIC CAP. 330μF/35V M W/F or	626E337
	ELECTROLYTIC CAP. 330μF/35V M W/F or	CE1GMZNTL331
	ELECTROLYTIC CAP. 330μF/35V M W/F	CE1GMZDDL331
C 9023	ELECTROLYTIC CAP. 1μF/160V M W/F or	CE2CMZDDL010
	ELECTROLYTIC CAP. 1μF/160V M W/F	CE2CMZNTL010
C 9024	ELECTROLYTIC CAP. 1μF/250V M or	CE2EMZDDL010
	ELECTROLYTIC CAP. 1μF/250V M	CE2EMZNTL010
C 9025	ELECTROLYTIC CAP. 2200μF/16V M W/F	626C228
	ELECTROLYTIC CAP. 2200μF/16V M W/F	CE1CMZNTL222
	ELECTROLYTIC CAP. 2200μF/16V M W/F	CE1CMZDDL222
C 9027	ELECTROLYTIC CAP. 1μF/100V M	CE2AMZDDL010
	ELECTROLYTIC CAP. 1μF/100V M	CE2AMZNTL010
C 9028	STACKED FILM CAP. 0.22μF/50V J or	125U224S
	STACKED FILM CAP. 0.22μF/50V J	122Z313S
C9029	CERAMIC CAP.0.1μF/50V J	3F40104S
	CONNECTORS	
CL9001	FJL CONNECTOR 10PK-FJ	J3FJJ10JG002
CL9002	FJL CONNECTOR 10PK-FJ	J3FJJ10JG002
CN1001	CONNECTOR BASE 2P or	1780165
	CONNECTOR BASE 2P or	1780276
	CONNECTOR BASE 2P or	J3RTC02JG001
	CONNECTOR BASE 2P	J3RTC02MY001
CN1002	CONNECTOR BASE 2P	1740799
CN1010	CONNECTOR PIN 1Por	1700576
	CONNECTOR PIN 1Por	1730688
	CONNECTOR PIN 1P	JTEA000LC001
CN1011	CONNECTOR PIN 1Por	1700576
	CONNECTOR PIN 1Por	1730688
	CONNECTOR PIN 1P	JTEA000LC001
CN9001	CONNECTOR BASE 5P or	1780168
	CONNECTOR BASE 5P or	1730812

Ref. No.	Description	Part No.
	CONNECTOR BASE 5P or	1730813
	CONNECTOR BASE 5P or	J3RTC05JG001
	CONNECTOR BASE 5P	J3RTC05MY001
CN9002	WIRE HOLDER 4P 51048-0410 or	XW01B04NF001
	WIRE HOLDER 4P 51048-0410	XW01D04NF001
	DIODES	
D 1001	RECTIFIER DIODE ERC04-10L3	QDDZ0ERC0410
D 1002	RECTIFIER DIODE ERC04-10L3	QDDZ0ERC0410
D 1003	RECTIFIER DIODE ERC04-10L3	QDDZ0ERC0410
D 1004	RECTIFIER DIODE ERC04-10L3	QDDZ0ERC0410
D 1005	RECTIFIER DIODE ERA22-02KFRB	QDSZ0ERA2202
D 1006	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 1007	ZENER DIODE UZ-24BSA	QDSA00UZ24BS
D 1008	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1009	ZENER DIODE UZ-2.7BSA	QDSA0UZ2R7BS
D 1010	ZENER DIODE UZ-6.2BSB	QDSB0UZ6R2BS
D 1011	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1017	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 1018	FAST RECOVERY DIODE ERD38-06L	AERD3806L000
D 1019	DIODE ERD32-02L ERD32-02L	AERD3202L000
D 1020	DIODE ERC30-02L3	AERC3002L300
D 1021	DIODE ERC30-02L3	AERC3002L300
D 1022	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1023	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1024	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1027	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1028	ZENNER DIODE UZ-6.8BSB	QDSB0UZ6R8BS
D 1029	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1030	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1031	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176	1SS176S
D 1032	ZENER DIODE UZ-18BSC	QDSC00UZ18BS
D 1033	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 1034	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 1038	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 1040	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 1041	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 1042	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 9001	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 9002	FAST RECOVERY DIODE ERB44-04L3	QDQZ0ERB4404
D 9003	DIODE 1N4148	QDSZ001N4148
D 9004	SWITCHING DIODE 1N4148M or	QDSZ01N4148M
	SWITCHING DIODE 1SS176 or	1SS176S
D 9005	DIODE ERB12-02L3	AERB1202L300
D 9006	ZENNER DIODE UZ-39BSB or	QDSB00UZ39BS
D 9007	FAST RECOVERY DIODE ERB44-04L3	QDQZ0ERB4404
D 9008	DIODE ERB12-02L3	AERB1202L300
D 9010	ZENNER DIODE UZ-18BSB or	QDSB00UZ18BS
	ICS	
IC1001	IC FA5311P	QSMDA0ZFD001
IC1002	IC:VOLTAGE REGULATOR AN7812F	AN7812F
IC1003	IC:VOLTAGE REGULATOR AN7806F	AN7806F
IC1004	IC:VOLTAGE REGULATOR AN7812F	AN7812F
IC1005 ⚠	PHOTO COUPLER PC120FY	QPEZ0PC120FY
IC1006	IC:VOLTAGE REGULATOR AN78M05F	AN78M05F
IC9001	IC LA7830	14LQ163
	COILS	
L1002	LINE FILTER 4.2MH	LLBG00ZTZ001
L 1005	POT COIL 47μH K	LLBD**DMM001
	POT COIL 47μH K	LLBD00DQE001
L 9001	COIL 4.7MH	117M957
L 9002	JUMPER WIRE 7.5mm	JW7.5
BC1001	BEAD INDUCTOR BL02RN2-R62	1190038
BC1002	BEAD INDUCTOR BL02RN2-R62	1190038
BC1003	BEAD INDUCTOR BL02RN2-R62	1190038
BC1004	BEAD INDUCTOR BL02RN2-R62	1190038
BC1005	BEAD INDUCTOR BL02RN2-R62	1190038
	TRANSISTORS	
Q 1004	FET 2SK1692	QF1Z02SK1692
Q 1005	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1006	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1008	TRANSISTER 2SB1274(R) or	Q2SB1274R000
	TRANSISTER 2SB1274(S)	Q2SB1274S000
Q 1009	TRANSISTER 2SB1274(R) or	Q2SB1274R000
	TRANSISTER 2SB1274(S)	Q2SB1274S000
Q 1010	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1011	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 1012	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA

Ref. No.	Description	Part No.
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1013	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1014	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1015	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1016	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1017	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 1018	TRANSISTOR 2SC3468(E) or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)	QQSD02SC3468
Q 9001	TRANSISTOR 2SC3468(E) or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)	QQSD02SC3468
Q 9002	TRANSISTOR 2SD2333	QQPZ02SD2333
Q 9003	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
	RESISTORS	
R 1001	CEMENT RES. 5W J 1.2 Ω or	RW051R2UB004
	CEMENT RES. 5W J 1.2 Ω or	RW051R2PG002
	CEMENT RES. 5W J 1.2 Ω	RW051R2KA004
R 1003	METAL RES. 2W J 47K Ω or	RN02473KA015
	METAL RES. 2W J 47K Ω	534B473
R 1006	CARBON RES. 1/6W J 680 Ω	132A681T
R 1007	CHIP RES. 1/10W J 3.9K Ω or	RRXAJR8Z0392
	CHIP RES. 1/10W J 3.9K Ω	134F392C

Ref. No.	Description	Part No.
R 1008	CARBON RES. 1/6W J 330 Ω	132A331T
R 1009	CHIP RES. 1/10W J 120 Ω or	RRXAJR8Z0121
	CHIP RES. 1/10W J 120 Ω	134F121C
R 1010	CARBON RES. 1/6W J 33K Ω	132A333T
R 1011	CARBON RES. 1/6W J 1.5M Ω	132A155T
R 1012	CARBON RES. 1/4W J 560K Ω	RCX4JASZ0564
R 1015	CARBON RES. 1/4W J 22 Ω	RCX4JASZ0220
R 1016	METAL RES. 3W J 0.22 Ω or	RN03JZDZ022A
	METAL RES. 3W J 0.22 Ω or	RN03R22KE003
	METAL RES. 3W J 0.22 Ω	RN03R22KA001
R 1017	METAL RES. 1W J 18K Ω or	RN01183KA015
	METAL RES. 1W J 18K Ω	534A183
R 1018	CARBON RES. 1/6W J 12K Ω	132A123T
R 1019	CARBON RES. 1/6W J 3.3K Ω	132A332T
R 1020	CHIP RES. 1/10W J 12K Ω or	RRXAJR8Z0123
	CHIP RES. 1/10W J 12K Ω	134F123C
R 1021	CARBON RES. 1/4W J 220K Ω	RCX4JASZ0224
R 1024	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 1025	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 1026	CARBON RES. 1/4W J 33K Ω	RCX4JASZ0333
R 1027	CARBON RES. 1/4W J 33K Ω	RCX4JASZ0333
R 1028	CARBON RES. 1/6W J 8.2K Ω	132A822T
R 1029	CHIP RES. 1/10W J 12K Ω or	RRXAJR8Z0123
	CHIP RES. 1/10W J 12K Ω	134F123C
R 1030	CARBON RES. 1/6W J 5.6K Ω	132A562T
R 1031	CHIP RES. 1/10W J 12K Ω or	RRXAJR8Z0123
	CHIP RES. 1/10W J 12K Ω	134F123C
R 1032	CARBON RES. 1/6W J 10K Ω	132A103T
R 1033	CARBON RES. 1/6W J 2.2K Ω	132A222T
R 1034	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562C
R 1035	CARBON RES. 1/6W J 10K Ω	132A103T
R 1036	CARBON RES. 1/6W J 2.2K Ω	132A222T
R 1037	CHIP RES. 1/10W J 100K Ω or	RRXAJR8Z0104
	CHIP RES. 1/10W J 100K Ω	134F104C
R 1038	CHIP RES. 1/10W J 12K Ω or	RRXAJR8Z0123
	CHIP RES. 1/10W J 12K Ω	134F123C
R 1039	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 1040	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 1041	CARBON RES. 1/4W J 33K Ω	RCX4JASZ0333
R 1042	CARBON RES. 1/6W J 5.6K Ω	132A562T
R 1043	CARBON RES. 1/6W J 4.7K Ω	132A472T
R 1044	CARBON RES. 1/6W J 10K Ω	132A103T
R 1045	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 1046	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 1047	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 1048	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 1049	CHIP RES. 1/10W J 100K Ω	RRXAJR8Z0104
	CHIP RES. 1/10W J 100K Ω	134F104F
R 1050	CHIP RES. 1/10W J 6.8K Ω or	RRXAJR8Z0682
	CHIP RES. 1/10W J 6.8K Ω	134F682C
R 1051	CHIP RES. 1/10W J 100K Ω or	RRXAJR8Z0104

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 100K Ω	134F104C
R 1053	CARBON RES. 1/6W J 33K Ω	132A333T
R 1055	CARBON RES. 1/6W J 220 Ω	132A221T
R 1056	CHIP RES. 1/10W J 5.6K Ω or	RRXAJR8Z0562
	CHIP RES. 1/10W J 5.6K Ω	134F562C
R 1059	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 1060	METAL RES. 2W J 47K Ω or	RN02473KA015
	METAL RES. 2W J 47K Ω	534B473
R 1061	METAL RES. 1W J 27K Ω or	RN01273KA015
	METAL RES. 1W J 27K Ω	534A273
R 1062	PCB JUMPER D0.6-P5.0	JW5.0T
R 9001	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 9002	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 9003	CHIP RES. 1/10W J 82K Ω or	RRXAJR8Z0823
	CHIP RES. 1/10W J 82K Ω	134F823C
R 9004	CHIP RES. 1/10W J 1.8K Ω or	RRXAJR8Z0182
	CHIP RES. 1/10W J 1.8K Ω	134F182C
R 9005	CHIP RES. 1/10W J 68K Ω or	RRXAJR8Z0683
	CHIP RES. 1/10W J 68K Ω	134F683C
R 9006	CHIP RES. 1/10W J 220 Ω or	RRXAJR8Z0221
	CHIP RES. 1/10W J 220 Ω	134F221C
R 9007	CHIP RES. 1/10W J 3.3K Ω or	RRXAJR8Z0332
	CHIP RES. 1/10W J 3.3K Ω	134F332C
R 9008	CHIP RES. 1/10W J 56K Ω or	RRXAJR8Z0563
	CHIP RES. 1/10W J 56K Ω	134F563C
R 9009	CHIP RES. 1/10W J 1K Ω	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 9010	CHIP RES. 1/10W J 68K Ω or	RRXAJR8Z0683
	CHIP RES. 1/10W J 68K Ω	134F683C
R 9011	CARBON RES. 1/4W J 1 Ω	RCX4JASZ01R0
R 9012	CARBON RES. 1/4W J 1.2 Ω	RCX4JASZ01R2
R 9013	FUSE RES. 1/2W 68 Ω or	RFX2680KA003
	FUSE RES. 1/2W 68 Ω or	5362680
	FUSE RES. 1/2W 68 Ω or	RFX2680MS002
	FUSE RES. 1/2W 68 Ω	RFX2680UB001
R 9015	CARBON RES. 1/4W J 1K Ω	RCX4JASZ0102
R 9016	CARBON RES. 1/6W J 560 Ω	132A561T
R 9017	CHIP RES. 1/10W J 560 Ω or	RRXAJR8Z0561
	CHIP RES. 1/10W J 560 Ω	134F561C
R 9018	CARBON RES. 1/4W J 2.2K Ω	RCX4JASZ0222
R 9020	CEMENT RES. 5W K 3.3K Ω or	RW05332UB004
	CEMENT RES. 5W K 3.3K Ω or	RW05332PG002
	CEMENT RES. 5W K 3.3K Ω	RW05332KA004
R 9021	CARBON RES. 1/6W J 100K Ω	132A104T
R 9024	FUSE RES. 1W J 2.2 Ω or	RF01229KA004
	FUSE RES. 1W J 2.2 Ω or	5363229
	FUSE RES. 1W J 2.2 Ω or	RF01229KA004
	FUSE RES. 1W J 2.2 Ω	RF012R2UB001
R 9026	CARBON RES. 1/6W J 180K Ω	132A184T
	(FOR CRT TYPE IS CPT/SUMSUNG)	
	CARBON RES. 1/6W J 150K Ω	132A154T
	(FOR CRT TYPE IS GOLD STAR)	
R 9030	CARBON RES. 1/6W J 47K Ω	132A473T
R 9031	CARBON RES. 1/6W J 5.6K Ω	132A562T
R 9032	CARBON RES. 1/6W J 5.6K Ω	132A562T
R 9033	CARBON RES. 1/6W J 100K Ω	132A104T
R 9034	CARBON RES. 1/6W J 22K Ω	132A223T

Ref. No.	Description	Part No.
R 9036	METAL RES. 3W J 270 Ω	RN03JZDZ0271
	METAL RES. 3W J 270 Ω	RN03271KE003
	METAL RES. 3W J 270 Ω	RN03271KA001
R 9037	CHIP RES. 1/10W J 39K Ω	RRXAJR8Z0393
	CHIP RES. 1/10W J 39K Ω	134F393C
R 9038	CHIP RES. 1/10W J 10K Ω	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
	VARIABLE RESISTORS	
VR1001	CARBON POTENTIOMETER 2K Ω B or	138J778
	CARBON POTENTIOMETER 2K Ω B	638A222
VR9001	CARBON POTENTIOMETER 10K Ω B or	138J781
	ARBON POTENTIOMETER 10K Ω B	638A103
	MISCELLANEOUS	
AC0001 ⚠	AC CORD LA1495-1	WAE0192LW002
CL1001	WIRE ASSEMBLY 6P	WX1B5400-001
F0001	FUSE T4.0AH 250V	PAGC20BAG402
FH1001	FUSE HOLDER EYF52BC	XH03Z00MS001
FH1002	FUSE HOLDER EYF52BC	XH03Z00MS001
L 1002 ⚠	LINE FILTER or	LLBG00ZMS008
	LINE FILTER	LLBG00ZTZ001
LD9001	RIBBON WIRE 4P	WX1B7400-004
PS1001 ⚠	POSISTOR ZPB53BL200C	5790117
RL1001 ⚠	POWER RELAY OST-S-112DM or	MRNDC12QN002
	POWER RELAY OST-S-112DM	MRNDC12QM003
T 1001 ⚠	POWER TRANS	LTT00EPYU002
T 9001	H DRIVE TRANS TE-1410	1150325
T 9002 ⚠	FLYBACK TRANS	LTF00EPSM004
TP1001	TEST PIN SJT-743-3	1740354
TP1002	TEST PIN SJT-743-3	1740354
TP9001	TEST PIN SJT-743-3	1740354

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA	———
	Consists of the following:	
	CAPACITORS	
C 8701	CERAMIC CAP. 0.01μF/2KV or	CCD3DZP0E103
	CERAMIC CAP. 0.01μF/2KV	6220602
C 8702	CERAMIC CAP. SL J 120pF/50V	3B42121S
C 8703	CERAMIC CAP. SL J 270pF/50V	3B42271S
C 8704	CERAMIC CAP. SL J 120pF/50V	3B42121S
C 8705	ELECTROLYTIC CAP. 10μF/50V M	126F106S
	CONNECTORS	
CN8701	WIRE HOLDER 4P 51048-0410 or	XW01D04NF001
	WIRE HOLDER 4P 51048-0410	XW01B04NF001
CN8703 ⚠	CRT SOCKET HPS0359-01-020 or	JSCC290HD003
	CRT SOCKET HPS0359-01-020	1780246
CN8704	CONNECTOR PIN 1P LV or	1730688
	CONNECTOR PIN 1P LV or	JTEA000LC001
	NNECTOR PIN 1P LV	1700576
	COIL	
L 8701	MICRO INDUCTOR 180μH-K-AXT	2165181S
	TRANSISTORS	
Q 8701	TRANSISTOR 2SC2621(D) or	2SC2621D
	TRANSISTOR 2SC2621(E)	2SC2621E
Q 8702	TRANSISTOR 2SC2621(D) or	2SC2621D
	TRANSISTOR 2SC2621(E)	2SC2621E
Q 8703	TRANSISTOR 2SC2621(D)or	2SC2621D
	TRANSISTOR 2SC2621(E)	2SC2621E

Ref. No.	Description	Part No.
	RESISTORS	
R 8701	CARBON RES. 1/4W J 1.8K Ω	RCX4JASZ0182
R 8702	CARBON RES. 1/4W J 1.8K Ω	RCX4JASZ0182
R 8703	CARBON RES. 1/4W J 1.8K Ω	RCX4JASZ0182
R 8704	CARBON RES. 1/4W J 1.5K Ω	1345152S
R 8705	CARBON RES. 1/4W J 1.5K Ω	RCX4JASZ0152
R 8706	CARBON RES. 1/4W J 1.5K Ω	RCX4JASZ0152
R 8707	METAL RES. 2W J 12K Ω or	RN02JZDZ0123
	METAL RES. 2W J 12K Ω or	RN02123KA015
	METAL RES. 2W J 12K Ω	534B123
R 8708	METAL RES. 2W J 12K Ω or	RN02JZDZ0123
	METAL RES. 2W J 12K Ω or	RN02123KA015
	METAL RES. 2W J 12K Ω	534B123
R 8709	METAL RES. 2W J 12K Ω or	RN02JZDZ0123
	METAL RES. 2W J 12K Ω or	RN02123KA015
	METAL RES. 2W J 12K Ω	534B123
R 8710	CARBON RES. 1/6W J 270 Ω	132A271T
R 8711	CHIP RES. 1/10W J 2.7K Ω or	RRXAJR8Z0272
	CHIP RES. 1/10W J 2.7K Ω	134F272C
R 8712	CHIP RES. 1/10W J 220 Ω or	RRXAJR8Z0221
	CHIP RES. 1/10W J 220 Ω	134F221C
R 8713	CARBON RES. 1/6W J 820 Ω	132A821T
R 8714	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8715	CHIP RES. 1/10W J 470 Ω or	RRXAJR8Z0471
	CHIP RES. 1/10W J 470 Ω	134F471C
R 8716	CARBON RES. 1/6W J 270 Ω	132A271T
R 8717	CHIP RES. 1/10W J 2.7K Ω or	RRXAJR8Z0272
	CHIP RES. 1/10W J 2.7K Ω	134F272C
R 8718	CHIP RES. 1/10W J 82 Ω or	RRXAJR8Z0820
	CHIP RES. 1/10W J 82 Ω	134F820C
R 8719	CARBON RES. 1/6W J 820 Ω	132A821T
R 8720	CHIP RES. 1/10W J 1.5K Ω or	RRXAJR8Z0152
	CHIP RES. 1/10W J 1.5K Ω	134F152C
R 8721	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8722	CARBON RES. 1/6W J 470 Ω	132A471T
R 8723	CARBON RES. 1/6W J 270 Ω	132A271T
R 8724	CARBON RES. 1/6W J 2.2K Ω	132A222T
R 8725	CHIP RES. 1/10W J 220 Ω or	RRXAJR8Z0221
	CHIP RES. 1/10W J 220 Ω	134F221C
R 8726	CARBON RES. 1/6W J 820 Ω	132A821T
R 8727	CHIP RES. 1/10W J 2.2K Ω or	RRXAJBR80222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8728	CARBON RES. 1/6W J 470 Ω	132A471T
	VARIABLE RESISTORS	
VR8701	SEMIFIXED RES 50K Ω B or	138J920
	EMIFIXED RES 50K Ω B	138A963
VR8702	SEMIFIXED RES 3.3K Ω B or	138J915
	SEMIFIXED RES 3.3K Ω B	138A956
VR8703	SEMIFIXED RES 3.3K Ω B or	138J915
	SEMIFIXED RES 3.3K Ω B	138A956
VR8704	SEMIFIXED RES 4.7K Ω B or	138J916
	SEMIFIXED RES 4.7K Ω B	138A957
VR8705	SEMIFIXED RES 4.7K Ω B or	138J916
	SEMIFIXED RES 4.7K Ω B	138A957
VR8706	SEMIFIXED RES 4.7K Ω B or	138J916
	EMIFIXED RES 4.7K Ω B	138A957
	MISCELLANEOUS	
CL8701	WIRE ASSEMBLY 6P	WX1B7400-005

CHROMA CBA

Ref. No.	Description	Part No.
	CHROMA CBA Consists of the following:	———
	CAPACITORS	
C 8001	CHIP CERAMIC CAP. CH J 180pF/50V	CHE1JJ8CH181
C 8002	CHIP CERAMIC CAP. F Z 0.047μF/25V	CHE1EZ80F473
C 8003	SEMICONDUCTOR CAP. F Z 0.1μF/25V	1220520S
C 8004	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C 8006	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C 8007	CHIP CERAMIC CAP. CH J 68pF/50V	CHE1JJ8CH680
C 8008	ELECTROLYTIC CAP. 2.2μF/50V M	126F225S
C 8009	CHIP CERAMIC CAP. CH J 120pF/50V	CHE1JJ8CH121
C 8010	ELECTROLYTIC CAP. 4.7μF/50V M	126F475S
C 8011	ELECTROLYTIC CAP. 0.1μF/50V M	126F104S
C 8012	ELECTROLYTIC CAP. 0.1μF/50V M	126F104S
C 8013	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C 8014	ELECTROLYTIC CAP. 0.1μF/50V M	126F104S
C 8015	FILM CAP. 0.47μF/50V J or	125U474S
	FILM CAP. 0.47μF/50V J	122Z317S
C 8016	FILM CAP. 0.47μF/50V J or	125U474S
	FILM CAP. 0.47μF/50V J	122Z317S
C 8017	FILM CAP. 0.47μF/50V J or	125U474S
	FILM CAP. 0.47μF/50V J	122Z317S
C 8018	ELECTROLYTIC CAP. 10μF/50V M	126F106S
C 8019	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8020	CHIP CERAMIC CAP. B K 0.022μF/16V	CHE1CK80B223
C 8021	CHIP CERAMIC CAP. B K 0.015μF/16V	CHE1CK80B153
C 8022	MYLAR CAP. 0.01μF/50V K	2250103S
C 8023	ELECTROLYTIC CAP. 3.3μF/50V M	126F335S
C 8025	CHIP CERAMIC CAP. SL J 240pF/50V	CHE1JJ8SL241
C 8026	CHIP CERAMIC CAP. B K 0.0027μF/50V	CHE1JK80B272
C 8027	ELECTROLYTIC CAP. 0.47μF/50V M	126F474S
C 8028	CHIP CERAMIC CAP. B K 0.0033μF/50V	CHE1JK80B332
C 8029	ELECTROLYTIC CAP. 1μF/50V M	126F105S
C 8030	ELECTROLYTIC CAP. 1μF/50V M	126F105S
C 8034	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8035	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJ8SL220
C 8036	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJ8SL330
C 8037	CHIP CERAMIC CAP. B K 0.027μF/16V	CHE1CK80B273
C 8038	CHIP CERAMIC CAP. SL J 56pF/50V	CHE1JJ8SL560
C 8039	CHIP CERAMIC CAP. SL J 13pF/50V	CHE1JJ8SL130
C 8040	ELECTROLYTIC CAP. 2.2μF/50V M NP	126X225S
C 8041	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8042	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8043	MYLAR CAP. 0.056μF/50V KT or	2250563S
C 8044	MYLAR CAP. 0.056μF/50V KT or	2250563S
C 8047	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8048	CHIP CERAMIC CAP. SL J 68pF/50V	CHE1JJ8SL680
C 8049	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJ8SL330
C 8050	CHIP CERAMIC CAP. SL J 27pF/50V	CHE1JJ8SL270
C 8051	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8052	ELECTROLYTIC CAP. 0.47μF/50V M	126F474S
C 8053	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8054	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8055	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8056	ELECTROLYTIC CAP. 100μF/16V M	126C107S
C 8057	CHIP CERAMIC CAP. CH D 8pF/50V	CHE1JD8CH8R0
C 8058	CHIP CERAMIC CAP. F Z 0.047μF/25V	CHE1EZ80F473
C 8059	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103

Ref. No.	Description	Part No.
C 8060	ELECTROLYTIC CAP. 100μF/16V M	126C107S
C 8061	CHIP CERAMIC CAP. CH D 7pF/50V	CHE1JD8CH7R0
C 8062	CHIP CERAMIC CAP. CH J 56pF/50V	CHE1JJ8CH560
C 8063	CHIP CERAMIC CAP. CH J 180pF/50V	CHE1JJ8CH181
C 8064	CHIP CERAMIC CAP. CH J 180pF/50V	CHE1JJ8CH181
C 8065	CHIP CERAMIC CAP. CH J 180pF/50V	CHE1JJ8CH181
C 8066	CHIP CERAMIC CAP. SL J 56pF/50V	CHE1JJ8SL560
C 8067	CHIP CERAMIC CAP. CH J 56pF/50V	CHE1JJ8CH560
C 8068	CHIP CERAMIC CAP. F Z 0.047μF/25V	CHE1EZ80F473
C 8071	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8072	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZ80F103
C 8073	CHIP CERAMIC CAP. B K 0.027μF/16V	CHE1CK80B273
C 8074	ELECTROLYTIC CAP. 100μF/16V M	126C107S
	CONNECTORS	
CL8001	CONNECTOR 8P	JC91B08ER001
CL8002	CONNECTOR 8P	JC91B08ER001
CL8003	CONNECTOR 8P	JC91B08ER001
CN8001	CONNECTOR BASE, 6P 173981-6	1770262
	DIODES	
D 8001	ZENER DIODE UZ-9.1BSB	QDSB0UZ9R1BS
D 8003	ZENER DIODE UZ-20BSB	QDSB00UZ20BS
D 8004	ZENNER DIODE UZ-7.5BSB	QDSB0UZ7R5BS
	IC	
IC8001	IC TA8759BN	QSBLB0ZTS042
	IC TA8759AN	GTA8759AN000
	COILS	
L 8002	MICRO INDUCTOR 68μH	2165680S
L 8003	CASING COIL R12-M336	LFA07V0MM030
L 8004	MICRO INDUCTOR 27μH-K-AXT	2165270S
L 8005	CASING COIL R12-M339	LFA07V0MM032
L 8006	MICRO INDUCTOR 8.2μH	2165829S
L 8007	CASING COIL R12-M338	LFA07V0MM029
L 8008	CASING COIL R12-M337	LFA07V0MM031
L 8009	CASING COIL R12-M337	LFA07V0MM031
L 8010	MICRO INDUCTOR 33μH-K-5FT	2165330S
L 8011	DELAY LINE	113N852
L 8012	MICRO INDUCTOR 56μH	2164560S
	TRANSISTORS	
Q 8001	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 8003	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 8004	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2

Ref. No.	Description	Part No.
Q 8005	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 8007	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 8008	TRANSISTOR KTA1267(GR)	NQS10KTA1267
	TRANSISTOR KTA1266 (GR)	NQS40KTA1266
	TRANSISTOR 2SA1318 (T)	2SA1318TAANP
	TRANSISTOR 2SA1318 (U)	2SA1318UAANP
	TRANSISTOR 2SA608SP(E)	2SA608SEZ
	TRANSISTOR 2SA608SP(F)	2SA608SFZ
	TRANSISTOR 2SA1015 (GR)	QA1015GRTPE2
Q 8009	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 8010	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 8011	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
Q 8012	TRANSISTOR KTC3199(GR)	NQS10KTC3199
	TRANSISTOR KTC3198	NQS40KTC3198
	TRANSISTOR 2SC3331	QSC3331TNPAA
	TRANSISTOR 2SC3331	QSC3331UNPAA
	TRANSISTOR 2SC536SP (E)	2SC536EZ
	TRANSISTOR 2SC536SP (F)	2SC536SFZ
	TRANSISTOR 2SC1815 (GR)	2SC1815GRTPE2
	RESISTORS	
R 8001	CHIP RES. 1/10W J 8.2K Ω or	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 8002	CHIP RES. 1/10W J 560 Ω or	RRXAJR8Z0561
	CHIP RES. 1/10W J 560 Ω	134F561C
R 8003	CHIP RES. 1/10W J 1.8K Ω or	RRXAJR8Z0182
	CHIP RES. 1/10W J 1.8K Ω	134F182C
R 8004	CHIP RES. 1/10W J 1.5K Ω or	RRXAJR8Z0152
	CHIP RES. 1/10W J 1.5K Ω	134F152C
R 8005	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C

Ref. No.	Description	Part No.
R 8006	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8007	CHIP RES. 1/10W J 18K Ω or	RRXAJR8Z0183
	CHIP RES. 1/10W J 18K Ω	134F183C
R 8008	CHIP RES. 1/10W J 1.8K Ω or	RRXAJR8Z0182
	CHIP RES. 1/10W J 1.8K Ω	134F182C
R 8009	CARBON RES. 1/6W J 390 Ω	132A391T
R 8010	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8011	CARBON RES. 1/6W J 390 Ω	132A391T
R 8012	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8013	CHIP RES. 1/10W J 390 Ω or	RRXAJR8Z0391
	CHIP RES. 1/10W J 390 Ω	134F390C
R 8014	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8015	CHIP RES. 1/10W J 100 Ω or	RRXAJR8Z0101
	CHIP RES. 1/10W J 100 Ω	134F101C
R 8016	CHIP RES. 1/10W J 270 Ω or	RRXAJR8Z0271
	CHIP RES. 1/10W J 270 Ω	134F271C
R 8017	CHIP RES. 1/10W J 270 Ω or	RRXAJR8Z0271
	CHIP RES. 1/10W J 270 Ω	134F271C
R 8018	CHIP RES. 1/10W J 270 Ω or	RRXAJR8Z0271
	CHIP RES. 1/10W J 270 Ω	134F271C
R 8019	CARBON RES. 1/6W J 1.5K Ω	132A152T
R 8020	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 8021	CHIP RES. 1/10W J 470 Ω or	RRXAJR8Z0471
	CHIP RES. 1/10W J 470 Ω	134F471C
R 8022	CHIP RES. 1/10W J 3.3K Ω or	RRXAJR8Z0332
	CHIP RES. 1/10W J 3.3K Ω	134F332C
R 8023	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 8024	CHIP RES. 1/10W J 27K Ω or	RRXAJR8Z0273
	CHIP RES. 1/10W J 27K Ω	134F273C
R 8025	CHIP RES. 1/10W J 270K Ω or	RRXAJR8Z0274
	CHIP RES. 1/10W J 270K Ω	134F274C
R 8026	CARBON RES. 1/6W J 120 Ω	132A121T
R 8027	CHIP RES. 1/10W J 150 Ω or	RRXAJR8Z0151
	CHIP RES. 1/10W J 150 Ω	134F151C
R 8028	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 8033	CHIP RES. 1/10W J 47K Ω or	RRXAJR8Z0473
	CHIP RES. 1/10W J 47K Ω	134F473C
R 8034	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 8035	CHIP RES. 1/10W J 0 Ω	RRXAJR8Z0000
R 8036	CHIP RES. 1/10W J 3.3K Ω or	RRXAJR8Z0332
	CHIP RES. 1/10W J 3.3K Ω	134F332C
R 8037	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 8038	CHIP RES. 1/10W J 1M Ω	RRXAJR8Z0105
	CHIP RES. 1/10W J 1M Ω	134F105C
R 8039	CHIP RES. 1/10W J 1.2K Ω or	RRXAJR8Z0122
	CHIP RES. 1/10W J 1.2K Ω	134F122C
R 8040	CARBON RES. 1/6W J 1.8K Ω	132A182T
R 8041	CHIP RES. 1/10W J 4.7M Ω or	RRXAJR8Z0475
	CHIP RES. 1/10W J 4.7M Ω	134F475C
R 8042	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C

Ref. No.	Description	Part No.
R 8044	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 8045	CARBON RES. 1/6W J 68K Ω	132A683T
R 8046	CHIP RES. 1/10W J 470K Ω or	RRXAJR8Z0474
	CHIP RES. 1/10W J 470K Ω	134F474C
R 8047	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 8052	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 8053	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
R 8054	CHIP RES. 1/10W J 8.2K Ω	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 8055	CHIP RES. 1/10W J 10K Ω	RRXAJR8Z0103
R 8056	CHIP RES. 1/10W J 33K Ω or	RRXAJR8Z0333
	CHIP RES. 1/10W J 33K Ω	134F333C
R 8057	CHIP RES. 1/10W J 1K Ω or	RRXAJR8Z0102
	CHIP RES. 1/10W J 1K Ω	134F102C
R 8058	CHIP RES. 1/10W J 220 Ω or	RRXAJR8Z0221
	CHIP RES. 1/10W J 220 Ω	134F221C
R 8059	CHIP RES. 1/10W J 15K Ω or	RRXAJR8Z0153
	CHIP RES. 1/10W J 15K Ω	134F153C
R 8063	CHIP RES. 1/10W J 330K Ω or	RRXAJR8Z0334
	CHIP RES. 1/10W J 330K Ω	134F334C
R 8064	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8065	CHIP RES. 1/10W J 390 Ω or	RRXAJR8Z0391
	CHIP RES. 1/10W J 390 Ω	134F391C
R 8067	CARBON RES. 1/6W J 10K Ω	132A103T
R 8068	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472
	CHIP RES. 1/10W J 4.7K Ω	134F472C
R 8069	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8070	CHIP RES. 1/10W J 470 Ω or	RRXAJR8Z0471
	CHIP RES. 1/10W J 470 Ω	134F471C
R 8071	CHIP RES. 1/10W J 4.7K Ω or	RRXAJR8Z0472
	CHIP RES. 1/10W J 4.7K Ω	134F472C
R 8072	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8073	CHIP RES. 1/10W J 8.2K Ω or	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 8074	CHIP RES. 1/10W J 3.9K Ω or	RRXAJR8Z0392
	CHIP RES. 1/10W J 3.9K Ω	134F392C
R 8075	CHIP RES. 1/10W J 2.2K Ω or	RRXAJR8Z0222
	CHIP RES. 1/10W J 2.2K Ω	134F222C
R 8076	CHIP RES. 1/10W J 560 Ω or	RRXAJR8Z0561
	CHIP RES. 1/10W J 560 Ω	134F561C
R 8077	CHIP RES. 1/10W J 8.2K Ω or	RRXAJR8Z0822
	CHIP RES. 1/10W J 8.2K Ω	134F822C
R 8079	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8080	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8081	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8082	CHIP RES. 1/10W J 39K Ω or	RRXAJR8Z0393
	CHIP RES. 1/10W J 39K Ω	134F393C
R 8083	CHIP RES. 1/10W J 0 Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W J 0 Ω	134F000C
R 8084	CARBON RES. 1/6W J 6.8K Ω	132A682T

Ref. No.	Description	Part No.
R 8085	CHIP RES. 1/10W J 390 Ω or	RRXAJR8Z0391
	CHIP RES. 1/10W J 390 Ω	134F391C
R 8086	CHIP RES. 1/10W J 820 Ω or	RRXAJR8Z0821
	CHIP RES. 1/10W J 820 Ω	134F821C
R 8087	CHIP RES. 1/10W J 680 Ω or	RRXAJR8Z0681
	CHIP RES. 1/10W J 680 Ω	134F681C
R 8088	CHIP RES. 1/10W J 10K Ω or	RRXAJR8Z0103
	CHIP RES. 1/10W J 10K Ω	134F103C
	VARIABLE RESISTORS	
VR8001	SEMIFIXED RES. 500 Ω B	138J776
VR8002	CARBON POTENTIOMETER 100K Ω B or	138J785
	CARBON POTENTIOMETER 100K Ω B	638A104
VR8003	CARBON POTENTIOMETER 1K Ω B or	138J777
	ARBON POTENTIOMETER 1K Ω B	638A102
	CRYSTAL OSCILLATORS	
XT8001	CRYSTAL OSCILLATOR 4.43MHZ or	1811387
	CRYSTAL OSCILLATOR 4.43MHZ	FXD445LKL001
XT8002	CRYSTAL OSCILLATOR 3.58MHZ or	1811291
	CRYSTAL OSCILLATOR 3.58MHZ	FXD355LKL001
	MISCELLANEOUS	
CF8001	CERAMIC RESONATOR CSB503F30	1813527
DL8001	GLASS DELAY ADL-CP144	1812056
TP8001	TEST PIN SJT-743-3	1740354
TP8002	TEST PIN SJT-743-3	1740354
TP8003	TEST PIN SJT-743-3	1740354
TP8004	TEST PIN SJT-743-3	1740354
TP8005	TEST PIN SJT-743-3	1740354

FILTER CBA

Ref. No.	Description	Part No.
	FILTER CBA BLOCK	----------
	Consists of the following:	
	CAPACITOR	
C0001	LINE ACROSS CAP. 0.1μF/250Vor	122Z181
	LINE ACROSS CAP. 0.1μF/250Vor	622Z631
	LINE ACROSS CAP. 0.1μF/250V	CT2E104NC011
C0002	LINE ACROSS CAP. 0.1μF/250Vor	122Z181
	LINE ACROSS CAP. 0.1μF/250Vor	622Z631
	LINE ACROSS CAP. 0.1μF/250V	CT2E104NC011
	FUSE	
F0001	FUSE T4.0A/250V	PAGC20BAG402
	CONNECTOR	
CL0001	WIRE ASS'Y 2P	WX1B5400-006
	COILS	
L0001	LINE FILTER 9mH	LLBG00ZTZ003
L0002	LINE FILTER 9mH	LLBG00ZTZ003
	RESISTORS	
R 0001	SOLID RES. 1/2W 1.8M Ω	RSX2185KE002

VCR CBA

Ref. No.	Description	Part No.
	VCR CBA	**0ESA00531**
	Consists of the following:	
⚠	VCR PCB	BB5400F01001
	CAPACITORS	
C 1501	ELECTROLYTIC CAP. 1000µF/6.3V M	126A108
C 1502	ELECTROLYTIC CAP. 220µF/6.3V M H7	526R227S
C 1504	ELECTROLYTIC CAP. 220µF/6.3V M H7	526R227S
C 2001	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 2002	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 2003	CHIP CERAMIC CAP. B K 0.001µF/50V	CHE1JKB0B102
C 2004	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 2006	ELECTROLYTIC CAP. 100µF/6.3V M H7	526R107S
C 2007	CHIP CERAMIC CAP. B K 0.0022µF/50V	CHE1JKB0B222
C 2008	ELECTROLYTIC CAP. 0.1µF/50V M H7	526W104S
C 2009	CHIP CERAMIC CAP. B K 0.047µF/16V	CHE1CKB0B473
C 2010	SEMICONDUCTOR CAP. SR K 0.1µF/25V	12Y2104S
C 2011	CHIP CERAMIC CAP. B K 0.012µF/16V	CHE1CKB0B123
C 2012	CHIP CERAMIC CAP. B K 0.01µF/25V	CHE1EKB0B103
C 2013	ELECTROLYTIC CAP. 100µF/6.3V M H7	526R107
C 2014	CHIP CERAMIC CAP. B K 0.01µF/25V	CHE1EKB0B103
C 2015	CHIP CERAMIC CAP. B K 0.022µF/16V	CHE1CKB0B223
C 2016	CHIP CERAMIC CAP. B K 0.01µF/25V	CHE1EKB0B103
C 2019	MYLAR CAP. 0.033µF/50V J	2254333S
C 2020	ELECTROLYTIC CAP. 47µF/6.3V M H7	526R476S
C 2021	ELECTROLYTIC CAP. 22µF/6.3V M H7	526R226S
C 2022	CHIP CERAMIC CAP. B K 0.022µF/16V	CHE1CKB0B223
C 2023	ELECTROLYTIC CAP. 10µF/16V M LL H7	CE1CMASHL106
C 2024	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 2025	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 2027	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 2029	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 2031	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 2032	CERAMIC CAP. F Z 0.1µF/50V	3F40104T
C 3001	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104
C 3003	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJBSL220
C 3004	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3005	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 3006	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3007	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3008	ELECTROLYTIC CAP. 47µF/6.3V M H7	526R476S
C 3009	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 3010	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3011	ELECTROLYTIC CAP. 1µF/50V M H7	526W105
C 3012	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 3013	CHIP CERAMIC CAP. B K 0.047µF/16V	CHE1CKB0B473
C 3014	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3015	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3016	CHIP CERAMIC CAP. SL J 39pF/50V	CHE1JJBSL390
C 3017	CHIP CERAMIC CAP. SL D 6pF/50V	CHE1JDBSL6R0
C 3018	CHIP CERAMIC CAP. SL J 82pF/50V	CHE1JJBSL820
C 3019	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 3020	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 3021	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 3022	ELECTROLYTIC CAP. 47µF/6.3V M H7	526R476S
C 3023	ELECTROLYTIC CAP. 47µF/6.3V M H7	526R476S
C 3024	CHIP CERAMIC CAP. SL J 390pF/50V	CHE1JJBSL391
C 3025	CHIP CERAMIC CAP. SL J 56pF/50V	CHE1JJBSL560
C 3026	CHIP CERAMIC CAP. SL J 56pF/50V	CHE1JJBSL560
C 3027	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 3028	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3030	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJBSL330
C 3031	CHIP CERAMIC CAP. SL J 180pF/50V	CHE1JJBSL181
C 3032	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJBSL330
C 3033	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJBSL330
C 3034	CHIP CERAMIC CAP. SL J 120pF/50V	CHE1JJBSL121
C 3035	CHIP CERAMIC CAP. SL J 56pF/50V	CHE1JJBSL560
C 3036	CHIP CERAMIC CAP. SL J 220pF/50V	CHE1JJBSL221
C 3037	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 3038	CHIP CERAMIC CAP. F Z 0.047µF/16V	CHE1CZB0F473
C 3039	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 3040	CHIP CERAMIC CAP. SL J 18pF/50V	CHE1JJBSL180
C 3041	CHIP CERAMIC CAP. SL J 18pF/50V	CHE1JJBSL180
C 3043	CHIP CERAMIC CAP. SL J 39pF/50V	CHE1JJBSL390
C 3044	CHIP CERAMIC CAP. SL J 27pF/50V	CHE1JJBSL270
C 3045	CHIP CERAMIC CAP. SL J 18pF/50V	CHE1JJBSL180
C 3046	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 3047	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 3048	CHIP CERAMIC CAP. F Z 0.047µF/16V	CHE1CZB0F473
C 3049	CHIP CERAMIC CAP. SL J 150pF/50V	CHE1JJBSL151
C 3050	CHIP CERAMIC CAP. SL J 68pF/50V	CHE1JJBSL680
C 3051	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3052	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104
C 3053	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3054	ELECTROLYTIC CAP. 10µF/16V M H7	526T106
C 3055	ELECTROLYTIC CAP. 220µF/6.3V M H7	526R227S
C 3056	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104
C 3057	ELECTROLYTIC CAP. 10µF/16V M H7	526T106S
C 3058	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3059	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104
C 3060	CHIP CERAMIC CAP. SL J 330pF/50V	CHE1JJBSL331
C 3061	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJBSL220
C 3062	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3063	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3064	CHIP CERAMIC CAP. B K 0.022µF/16V	CHE1CKB0B223
C 3065	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3066	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3067	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3068	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3070	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3072	ELECTROLYTIC CAP. 220µF/6.3V M H7	526R227S
C 3073	ELECTROLYTIC CAP. 2.2µF/50V M H7	526W225S
C 3074	ELECTROLYTIC CAP. 2.2µF/50V M H7	526W225S
C 3075	ELECTROLYTIC CAP. 2.2µF/50V M H7	526W225S
C 3076	ELECTROLYTIC CAP. 1µF/50V M H7	526W105S
C 3077	CHIP CERAMIC CAP. B K 0.01µF/25V	CHE1EKB0B103
C 3078	CHIP CERAMIC CAP. B K 0.047µF/16V	CHE1CKB0B473
C 3079	CHIP CERAMIC CAP. SL J 39pF/50V	CHE1JJBSL390
C 3081	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 3082	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104
C 3083	CERAMIC CAP. F Z 0.1µF/50V	3F40104T
C 3084	CHIP CERAMIC CAP. F Z 0.047µF/16V	CHE1CZB0F473
C 3085	ELECTROLYTIC CAP. 100µF/6.3V M H7	526R107S
C 3086	ELECTROLYTIC CAP. 100µF/6.3V M H7	526R107S
C 3087	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJBSL220
C 4001	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104
C 4002	ELECTROLYTIC CAP. 22µF/16V M H7	526T226S
C 4003	CHIP CERAMIC CAP. B K 0.0047µF/50V	CHE1JKB0B472
C 4004	CHIP CERAMIC CAP. F Z 0.1µF/16V	CHE1CZB0F104

Ref. No.	Description	Part No.
C 4005	CHIP CERAMIC CAP. B K 0.0027μF/50V	CHE1JKB0B272
C 4006	CHIP CERAMIC CAP. B K 0.01μF/25V	CHE1EKB0B103
C 4008	CHIP CERAMIC CAP. B K 0.0022μF/50V	CHE1JKB0B222
C 4009	CHIP CERAMIC CAP. B K 0.001μF/50V	CHE1JKB0B102
C 4011	CHIP CERAMIC CAP. B K 0.01μF/25V	CHE1EKB0B103
C 4012	ELECTROLYTIC CAP. 22μF/16V M H7	526T226S
C 4013	MYLAR CAP. 0.047μF/100V J	1255473S
C 4014	CHIP CERAMIC CAP. SL J 220pF/50V	CHE1JJBSL221
C 4015	CHIP CERAMIC CAP. B K 0.01μF/25V	CHE1EKB0B103
C 4017	ELECTROLYTIC CAP. 4.7μF/25V M H7	526U475S
C 4020	ELECTROLYTIC CAP. 22μF/16V M H7	526T226S
C 4022	CHIP CERAMIC CAP. B K 0.015μF/16V	CHE1CKB0B153
C 4025	ELECTROLYTIC CAP. 10μF/16V M H7	526T106S
C 4026	ELECTROLYTIC CAP. 10μF/16V M H7	526T106S
C 6001	CERAMIC CAP. F Z 0.1μF/50V	3F40104T
C 6002	ELECTROLYTIC CAP. 10μF/16V M H7	526T106S
C 6003	CHIP CERAMIC CAP. CH J 27pF/50V	CHE1JJBCH270
C 6004	CHIP CERAMIC CAP. CH J 20pF/50V	CHE1JJBCH200
C 6005	AXIAL CAP. B K 100pF/50V	3B42101T
C 6006	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 6007	ELECTROLYTIC CAP. 1000μF/6.3V M	126A108
C 6008	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 6009	ELECTROLYTIC CAP. 0.1μF/50V M H7	526W104S
C 6010	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 6011	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 6012	ELECTROLYTIC CAP. 47μF/6.3V M H7	526R476S
C 6013	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 6014	CHIP CERAMIC CAP. F Z 0.047μF/16V	CHE1CZB0F473
C 6015	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 6022	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 6023	CERAMIC CAP. F Z 0.01μF/50V	3F45103T
	CONNECTORS	
CN1501	CONNECTOR BASE, 6P 173981-6	1770262
CN3001	STRAIGHT PIN CONNECTOR, 15P IL-SDA-15P-S2T2	1770635
CN6001	STRAIGHT PIN CONNECTOR, 20P IL-SDA-20P-S2T2	1770640
CN6002	FJ CONNECTOR 12P	J3FJJ12JG001
CN6003	STRAIGHT PIN HEADER, 2P IL-S-2P-S2T2-EF	1740764
	DIODES	
D 1501	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 1504	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 2001	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 2002	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 2004	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 3001	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 3003	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 3004	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 3005	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 3006	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 3007	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 6001	LED SID1K10CXM	QP4ZD1K10CXM
D 6002	SWITCHING DIODE 1N4148M	QDTZ01N4148M
D 6003	LED SLR-55VC3F(RED)	1401273
D 6004	LED SLR-55VC3F(RED)	1401273
D 6005	LED SLR-55VC3F(RED)	1401273
D 6006	LED SLR-55VC3F(RED)	1401273
	ICS	
IC2001	IC BA10324	14LF554

Ref. No.	Description	Part No.
IC2002	IC:SERVO EAEX002	NSMEA0SEX002
IC3001	IC LA7391A	QSBLA0SSY027
IC3002	IC LA7311	14LQ528
IC3003	IC:CCD LC89925	QSMLA0SSY004
IC4001	IC:AUDIO LA7282	QSZLA0SSY003
IC6001	IC:SYSCON M38123M-053SP	QSMQA0SMB024
IC6002	IC TA7291S	14LW342
IC6003	IC:RESET PST-529D-2	14DM763Z
IC6004	REEL SENSOR SG-211L	PCZLAZZKK003
	COILS	
L 3001	MICRO INDUCTOR 10μH	2165100T
L 3002	MICRO INDUCTOR 100μH-K-AXT	2165101T
L 3003	MICRO INDUCTOR 47μH-K-AXT	2165470T
L 3004	MICRO INDUCTOR 39μH-K-AXT	2165390T
L 3005	MICRO INDUCTOR 27μH-K-AXT	2165270T
L 3006	MICRO INDUCTOR 330μH-K-AXT	2165331T
L 3007	MICRO INDUCTOR 330μH-K-AXT	2165331T
L 3008	MICRO INDUCTOR 22μH-K-AXT	2165220T
L 3009	MICRO INDUCTOR 22μH-K-AXT	2165220T
L 3010	MICRO INDUCTOR 47μH-K-AXT	2165470T
L 3012	MICRO INDUCTOR 33μH-K-AXT	2165330T
L 3013	MICRO INDUCTOR 56μH-K-AXT	2165560T
L 3014	MICRO INDUCTOR 330μH-K-AXT	2165331T
L 3015	MICRO INDUCTOR 180μH-K-AXT	2165181T
L 3016	MICRO INDUCTOR 82μH-K-AXT	2165820T
L 3017	MICRO INDUCTOR 2.2μH-K-AXT	2165229T
L 3018	MICRO INDUCTOR 15μH-K-AXT	2165150T
L 3020	MICRO INDUCTOR 100μH-K-AXT	2165101T
L 3021	INDUCTOR 22μH-K	LLARKLUTU220
L 3022	MICRO INDUCTOR 68μH-K-AXT	2165680T
L 4001	INDUCTOR 15MH-J	LLARJNSTE153
T 4001	COIL, OSC AUDIO	113D686
L 6001	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q 1501	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 1502	RES. BUILT-IN TRANSISTOR 2SA1346	2SA1346Z
Q 1503	TRANSISTOR 2SA1654	2SA1654Z
Q 2001	RES. BUILT-IN TRANSISTOR 2SA1346	2SA1346Z
Q 2002	RES. BUILT-IN TRANSISTOR 2SA1346	2SA1346Z
Q 2003	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 2004	RES. BUILT-IN TRANSISTOR KRA109M	NQSZ0KRA109M
Q 2006	TRANSISTOR 2SA608SP(E)	2SA608SEZ
Q 3002	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 3003	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 3004	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 3005	TRANSISTOR 2SA608SP(E)	2SA608SEZ
Q 3006	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 3007	TRANSISTOR 2SA608SP(E)	2SA608SEZ
Q 3008	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 3009	RES. BUILT-IN TRANSISTOR KRA109M	NQSZ0KRA109M
Q 3010	RES. BUILT-IN TRANSISTOR KRA109M	NQSZ0KRA109M
Q 3011	TRANSISTOR 2SA608SP(E)	2SA608SEZ
Q 3012	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 3013	TRANSISTOR 2SC2839(E)	2SC2839EZ
Q 3014	TRANSISTOR 2SC2839(E)	2SC2839EZ
Q 3015	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 3016	RES. BUILT-IN TRANSISTOR KRA109M	NQSZ0KRA109M
Q 3017	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 3018	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 3019	TRANSISTOR 2SC2839(E)	2SC2839EZ

Ref. No.	Description	Part No.
Q 3020	TRANSISTOR 2SC2839(E)	2SC2839EZ
Q 3021	TRANSISTOR 2SC2839(E)	2SC2839EZ
Q 3025	TRANSISTOR 2SA608SP(E)	2SA608SEZ
Q 3026	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 3027	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 3028	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 3029	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400
Q 4001	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 6001	TRANSISTOR 2SD400(F)	2SD400FZ
Q 6002	TRANSISTOR 2SC536SP(E)	2SC536SEZ
Q 6003	PHOTO TRANSISTOR RPT-38PB3F	QRPT38PB0000
Q 6004	PHOTO TRANSISTOR RPT-38PB3F	QRPT38PB0000
Q 6005	TRANSISTOR 2SC536SP(E)	2SC536SEZ
	RESISTORS	
R 1501	CHIP RES. 1/10W J 750 Ω	RRXAJBBZ0751
R 1502	CHIP RES. 1/10W J 560 Ω	RRXAJBBZ0561
R 1507	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 2001	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 2002	CHIP RES. 1/10W J 4.7M Ω	RRXAJBBZ0475
R 2003	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 2004	CHIP RES. 1/10W J 56K Ω	RRXAJBBZ0563
R 2005	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 2006	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 2007	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 2008	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 2009	CHIP RES. 1/10W J 39K Ω	RRXAJBBZ0393
R 2010	CHIP RES. 1/10W J 39K Ω	RRXAJBBZ0393
R 2013	CHIP RES. 1/10W J 150K Ω	RRXAJBBZ0154
R 2014	CHIP RES. 1/10W J 1M Ω	RRXAJBBZ0105
R 2015	CHIP RES. 1/10W J 56K Ω	RRXAJBBZ0563
R 2016	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 2017	CHIP RES. 1/10W J 150K Ω	RRXAJBBZ0154
R 2018	CHIP RES. 1/10W J 150K Ω	RRXAJBBZ0154
R 2019	CHIP RES. 1/10W J 5.6K Ω	RRXAJBBZ0562
R 2020	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 2021	CHIP RES. 1/10W J 39K Ω	RRXAJBBZ0393
R 2022	CHIP RES. 1/10W J 56K Ω	RRXAJBBZ0563
R 2023	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 2024	CHIP RES. 1/10W J 180K Ω	RRXAJBBZ0184
R 2025	CHIP RES. 1/10W J 56K Ω	RRXAJBBZ0563
R 2026	CARBON RES. 1/6W J 390K Ω	132A394T
R 2027	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 2028	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 2029	CARBON RES. 1/6W J 5.6K Ω	132A562T
R 2030	CARBON RES. 1/6W J 100K Ω	132A104T
R 2031	CARBON RES. 1/6W J 150 Ω	132A151T
R 2032	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 2033	CHIP RES. 1/10W J 100 Ω	RRXAJBBZ0101
R 2034	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 2035	CHIP RES. 1/10W J 56K Ω	RRXAJBBZ0563
R 2036	CARBON RES. 1/6W J 68K Ω	132A683T
R 3003	CHIP RES. 1/10W J 3.3K Ω	RRXAJBBZ0332
R 3005	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 3006	CHIP RES. 1/10W J 8.2K Ω	RRXAJBBZ0822
R 3007	CHIP RES. 1/10W J 1M Ω	RRXAJBBZ0105
R 3008	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3009	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3010	CHIP RES. 1/10W J 220K Ω	RRXAJBBZ0224
R 3011	CHIP RES. 1/10W J 390 Ω	RRXAJBBZ0391
R 3012	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272

Ref. No.	Description	Part No.
R 3013	CHIP RES. 1/10W J 560 Ω	RRXAJBBZ0561
R 3014	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 3015	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 3017	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3018	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3019	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 3020	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 3021	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3022	CHIP RES. 1/10W J 27K Ω	RRXAJBBZ0273
R 3023	CHIP RES. 1/10W J 8.2K Ω	RRXAJBBZ0822
R 3024	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3025	CHIP RES. 1/10W J 270 Ω	RRXAJBBZ0271
R 3026	CHIP RES. 1/10W J 3.3K Ω	RRXAJBBZ0332
R 3027	CHIP RES. 1/10W J 5.6K Ω	RRXAJBBZ0562
R 3028	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3029	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 3030	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3031	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3032	CHIP RES. 1/10W J 390 Ω	RRXAJBBZ0391
R 3033	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3034	CHIP RES. 1/10W J 680 Ω	RRXAJBBZ0681
R 3035	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 3036	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 3037	CHIP RES. 1/10W J 390 Ω	RRXAJBBZ0391
R 3038	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3039	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 3040	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3041	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3042	CHIP RES. 1/10W J 330 Ω	RRXAJBBZ0331
R 3043	CHIP RES. 1/10W J 1.2K Ω	RRXAJBBZ0122
R 3044	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 3045	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3046	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3047	CHIP RES. 1/10W J 8.2K Ω	RRXAJBBZ0822
R 3048	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 3049	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 3050	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3051	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 3052	CHIP RES. 1/10W J 1.2K Ω	RRXAJBBZ0122
R 3053	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 3054	CHIP RES. 1/10W J 5.6K Ω	RRXAJBBZ0562
R 3055	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 3056	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 3057	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3058	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 3059	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3061	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3062	CHIP RES. 1/10W J 270 Ω	RRXAJBBZ0271
R 3063	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3064	CHIP RES. 1/10W J 270 Ω	RRXAJBBZ0271
R 3065	CHIP RES. 1/10W J 33K Ω	RRXAJBBZ0333
R 3066	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3067	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3068	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 3069	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 3070	CHIP RES. 1/10W J 100 Ω	RRXAJBBZ0101
R 3071	CHIP RES. 1/10W J 1.2K Ω	RRXAJBBZ0122
R 3072	CHIP RES. 1/10W J 1.2K Ω	RRXAJBBZ0122
R 3073	CHIP RES. 1/10W J 100 Ω	RRXAJBBZ0101
R 3074	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102

Ref. No.	Description	Part No.
R 3075	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 3076	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 3077	CHIP RES. 1/10W J 1M Ω	RRXAJBBZ0105
R 3082	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 3083	CHIP RES. 1/10W J 820 Ω	RRXAJBBZ0821
R 3084	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3085	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 3088	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3089	CHIP RES. 1/10W J 330 Ω	RRXAJBBZ0331
R 3090	CHIP RES. 1/10W J 8.2K Ω	RRXAJBBZ0822
R 3091	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 3092	CHIP RES. 1/10W J 560 Ω	RRXAJBBZ0561
R 3093	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 3094	CHIP RES. 1/10W J 1.8K Ω	RRXAJBBZ0182
R 3095	CHIP RES. 1/10W J 1M Ω	RRXAJBBZ0105
R 3096	CHIP RES. 1/10W J 560 Ω	RRXAJBBZ0561
R 3097	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 3098	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3099	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 3100	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 3101	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 3102	CARBON RES. 1/6W J 820 Ω	132A821
R 4001	CHIP RES. 1/10W J 18K Ω	RRXAJBBZ0183
R 4002	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 4003	CHIP RES. 1/10W J 2.2M Ω	RRXAJBBZ0225
R 4004	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 4005	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 4006	CHIP RES. 1/10W J 330K Ω	RRXAJBBZ0334
R 4008	CHIP RES. 1/10W J 100 Ω	RRXAJBBZ0101
R 4009	CHIP RES. 1/10W J 33K Ω	RRXAJBBZ0333
R 4010	CHIP RES. 1/10W J 100 Ω	RRXAJBBZ0101
R 4011	CHIP RES. 1/10W J 4.7 Ω	RRXAJBBZ04R7
R 4012	CARBON RES. 1/6W J 22 Ω	132A220T
R 4013	CHIP RES. 1/10W J 47 Ω	RRXAJBBZ0470
R 4014	CHIP RES. 1/10W J 6.8K Ω	RRXAJBBZ0682
R 4015	CHIP RES. 1/10W J 22K Ω	RRXAJBBZ0223
R 4016	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 4017	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 4019	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 4020	CHIP RES. 1/10W J 1.2K Ω	RRXAJBBZ0122
R 4021	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 4022	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 4025	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 4026	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 4027	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 6001	METAL RES. 1W J 2.7 Ω	RN01JZDZ0279
R 6002	METAL RES. 1W J 33 Ω	RN01JZDZ0330
R 6003	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 6004	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 6005	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 6006	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6007	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6008	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6009	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6010	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6014	CHIP RES. 1/10W J 3.9K Ω	RRXAJBBZ0392
R 6015	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 6016	CHIP RES. 1/10W J 2.2K Ω	RRXAJBBZ0222
R 6017	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152
R 6018	CHIP RES. 1/10W J 1.5K Ω	RRXAJBBZ0152

Ref. No.	Description	Part No.
R 6019	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 6020	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 6021	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 6022	CHIP RES. 1/10W J 2.7K Ω	RRXAJBBZ0272
R 6023	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 6024	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 6025	CHIP RES. 1/10W J 470K Ω	RRXAJBBZ0474
R 6026	CHIP RES. 1/10W J 470K Ω	RRXAJBBZ0474
R 6027	CHIP RES. 1/10W J 1.2K Ω	RRXAJBBZ0122
R 6028	CHIP RES. 1/10W J 82K Ω	RRXAJBBZ0823
R 6029	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6030	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6031	CARBON RES. 1/6W J 180 Ω	132A181T
R 6032	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 6033	CHIP RES. 1/10W J 8.2K Ω	RRXAJBBZ0822
R 6034	CHIP RES. 1/10W J 100 Ω	RRXAJBBZ0101
R 6036	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6037	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6038	CHIP RES. 1/10W J 4.7K Ω	RRXAJBBZ0472
R 6039	CHIP RES. 1/10W J 10K Ω	RRXAJBBZ0103
R 6041	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 6042	CHIP RES. 1/10W J 330 Ω	RRXAJBBZ0331
R 6043	CHIP RES. 1/10W J 330 Ω	RRXAJBBZ0331
R 6044	CHIP RES. 1/10W J 330 Ω	RRXAJBBZ0331
R 6045	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6046	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6047	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6048	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6049	CHIP RES. 1/10W J 10M Ω	RRXAJBBZ0106
R 6050	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6051	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6054	CHIP RES. 1/10W J 47K Ω	RRXAJBBZ0473
R 6057	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 6058	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 6059	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 6064	CHIP RES. 1/10W J 470 Ω	RRXAJBBZ0471
R 6067	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 6068	CHIP RES. 1/10W J 1K Ω	RRXAJBBZ0102
R 6070	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
R 6071	CARBON RES. 1/6W J 47K Ω	132A473T
R 6072	CARBON RES. 1/6W J 47K Ω	132A473T
J6011A	CHIP RES. 1/10W J 0 Ω	RRXAJBBZ0000
SWITCHES		
SW6004	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6005	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6006	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6007	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6008	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6009	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6010	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6011	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6012	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6013	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6014	PUSH SWITCH SKHVBE020B KHV-902	5622160Y
SW6015	PUSH SWITCH SW-112-3	SSP0101KB001
SW6016	PUSH SWITCH SPPB61	SSP0102AL001
VARIABLE RESISTORS		
VR2001	CARBON POTENTIOMETER 1M Ω	238A408Y
VR2002	CARBON POTENTIOMETER 100K Ω	238A402Y
VR3001	CARBON POTENTIOMETER 4.7K Ω	238A394Y

Ref. No.	Description	Part No.
VR3002	CARBON POTENTIOMETER 4.7K Ω	238A394Y
VR3003	CARBON POTENTIOMETER 4.7K Ω	238A394Y
VR4001	CARBON POTENTIOMETER 100K Ω	238A402Y
	CRYSTAL OSCILLATORS	
XT3001	CRYSTAL OSCILLATOR 4.433619MHZ	1811388
XT6001	CRYSTAL OSCILLATOR 32KHZ(10PPM)	1811351
XT6002	CERAMIC RESONATOR 4MHZ	FY0405TMS002
	MISCELLANEOUS	
DL3001	COMB FILTER ADL-FN1344F	1813025
DL3002	DELAY LINE 2H	FD0445PAC001
L 1501	PCB JUMPER D0.6-P5.0	JW5.0T
SN6001	DEW SENSOR EYHS-10R4	PCZHUMZMS004
U 6001	REMOTE CONTROL UNIT GP1U582Y	USESJRSSH011

CHASSIS ELECTRICAL PARTS

Ref. No.	Description	Part No.
⚠L1001	DEGAUSSING COIL or	LLBH00ZTZ012
	DEGAUSSING COIL	LLBH00ZSW007
LD4251	WIRE ASSEMBLY 2P	WX1B7400-002
LD9601	WIRE ASSEMBLY (A)	WX1L7500-004A
SP4251	SPEAKER S0509J08A or	1520612
	SPEAKER	DSD0809SM001
⚠CT9601	CRT 51GGB95X-TC01 (SAMSUNG) or	TCRT190SM005
	CRT 510UFB22-TC52 (CPT)or	TCRT190CP008
	CRT A48KMX12XX44 (GOLD STAR0or	TCRT190GS004
	CRT A48KMX02XX44 (GOLD STAR)	TCRT1C0GS007

DECK MECHANISM SECTION

20" COLOR TV / VCR COMBINATION

TVCR200

Sec. 2: Deck Mechanism Section

Standard Maintenance
Alignment for Mechanism
Disassembly / Assembly of Mechanism
Deck Schematic Diagram
Deck P.C. Boards
Deck Exploded Views

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STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ❍: Check ●: Change

Deck		Periodic Service Schedule			
Ref. No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	❍	●	❍	●
B3	Loading Motor			●	
B6	Pinch Roller Arm Assembly		●		●
B8	Pulley Assembly		●		●
B21	Loading Belt		●		●
B27	Band Brake Assembly		●		●
B28	Main Brake S Assembly		●		●
B29	Main Brake T Assembly		●		●
B30	T Brake Arm Assembly		●		●
B31	ACE Head Assembly			●	
B32	Reel Assembly			●	
B37	Capstan Motor		●		●
B52	Capstan Belt		●		●
B54	Ground Brush Assembly			●	
B132	Clutch Assembly		●		●
B133	Arm Idler Assembly		●		●

Note:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

Cleaning

Cleaning of Video Head

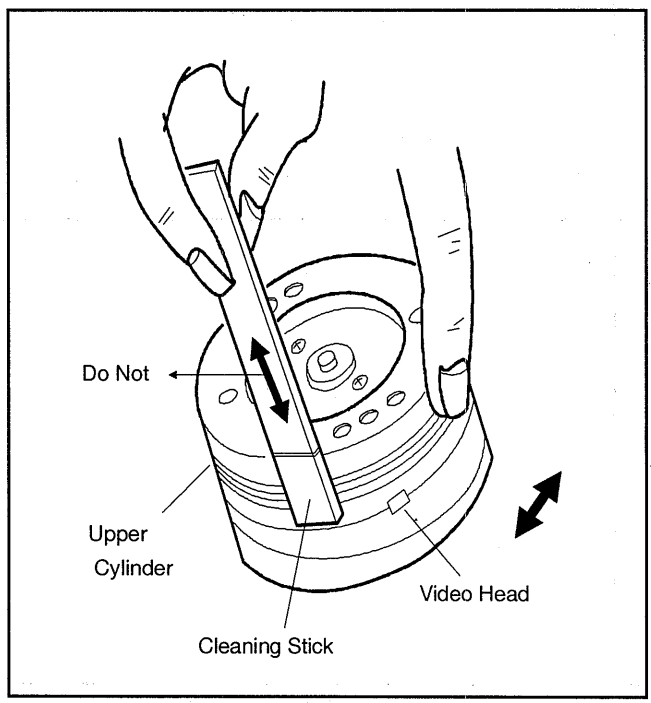
Clean the head with a head cleaning stick or chamois skin.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois skin and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois skin.



Cleaning of Audio Control Head

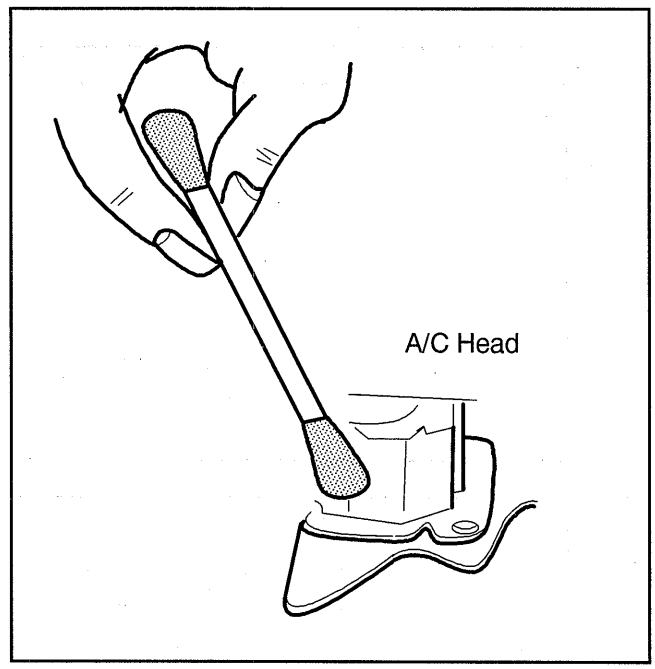
Clean the head with a cotton swab.

Procedure

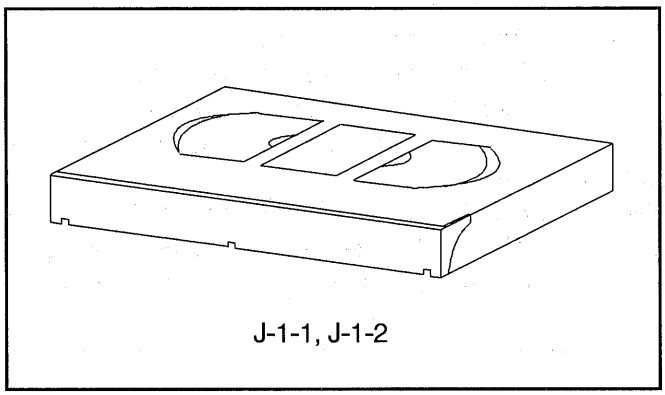
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

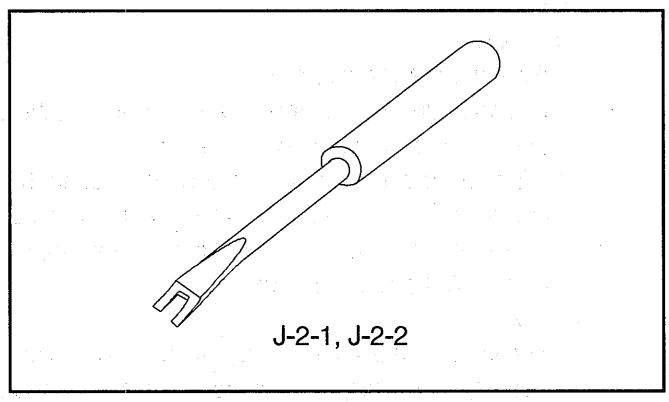
1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



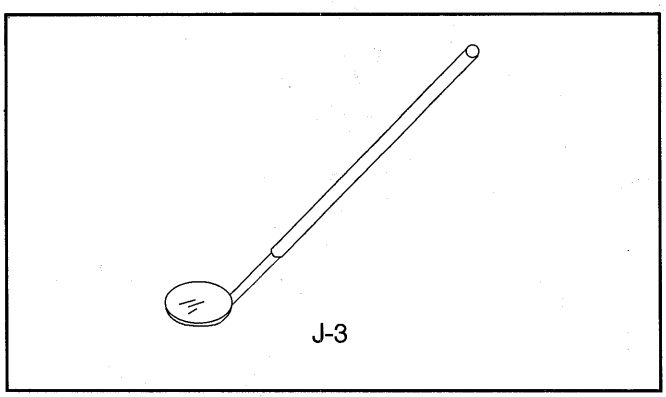
SERVICE FIXTURE AND TOOLS



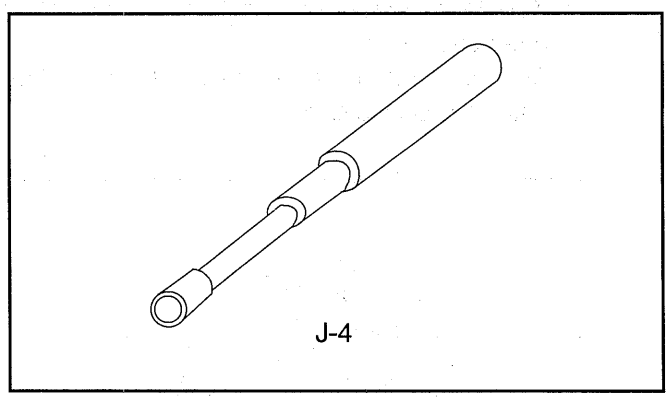
J-1-1, J-1-2



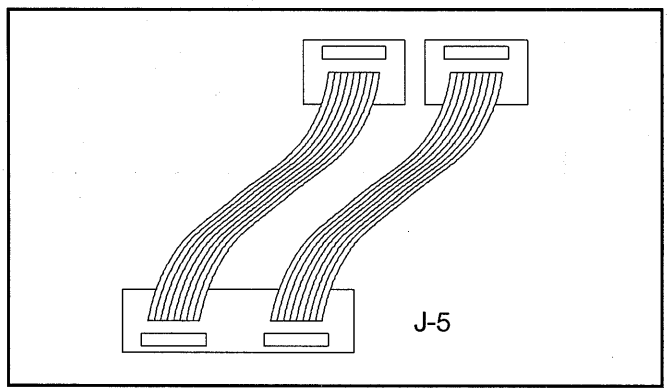
J-2-1, J-2-2



J-3



J-4



J-5

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	F6-A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	F6-N	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2-1	Special Driver, Large	FSJ-0001	X Value
J-2-2	Special Driver, Small	FSJ-0006	Guide Roller
J-3	Mirror	FSJ-0004	Tape Transportation Check
J-4	Box Driver, Mx3	FSJ-0005	A/C Head Height
J-5	Deck Extention Cable	N1099XA	All Mechanical and Electrical Adjustments

Note: Before starting any adjustment, take the Deck Assembly out of the cabinet and use J-5 to connect the Deck Assembly with the Main CBA.

MECHANICAL ALIGNMENT PROCEDURES

Service Information

A. Method for Manual Tape Loading/Unloading of VCR.

To place the Cassette Holder in the down position, turn the Pulley Assembly clockwise as viewed from the back of Deck. To place the Cassette Holder in the up position, turn the Pulley Assembly counterclockwise as viewed from the back of the Deck.

B. How to place the Cassette Holder in the down position without a cassette tape.

METHOD

1. Disconnect the AC Plug and remove the Top Cover.
2. Cover the LED Sensors located below Prism L and Prism R.

Note: The tape sensor is extremely susceptible to damage from static electricity. When handling the tape sensor use a conductive mat, a grounded soldering iron, and so on, to protect the tape sensor from static damage.

3. Turn the Pulley Assembly clockwise as viewed from the back of the Deck.

Top View

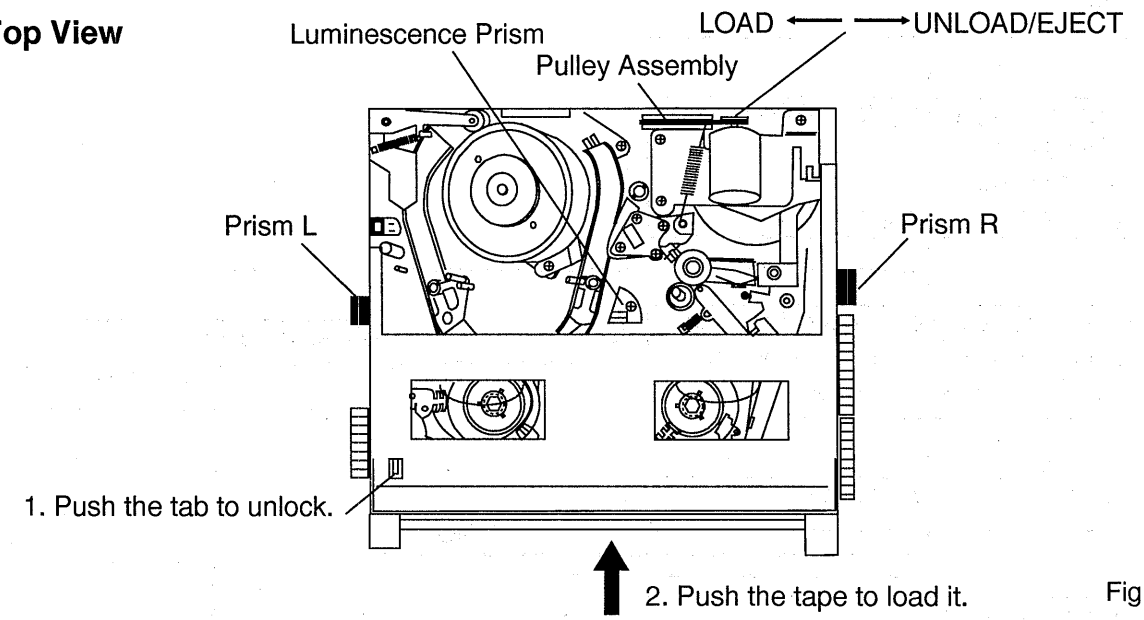


Fig. M1

Bottom View

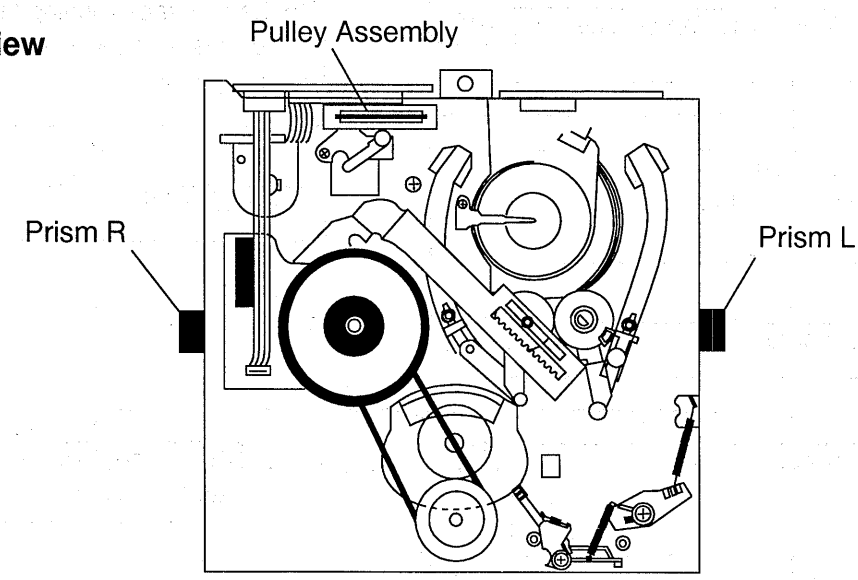


Fig. M2

1. Tape Interchangeability Alignment (Final Alignment)

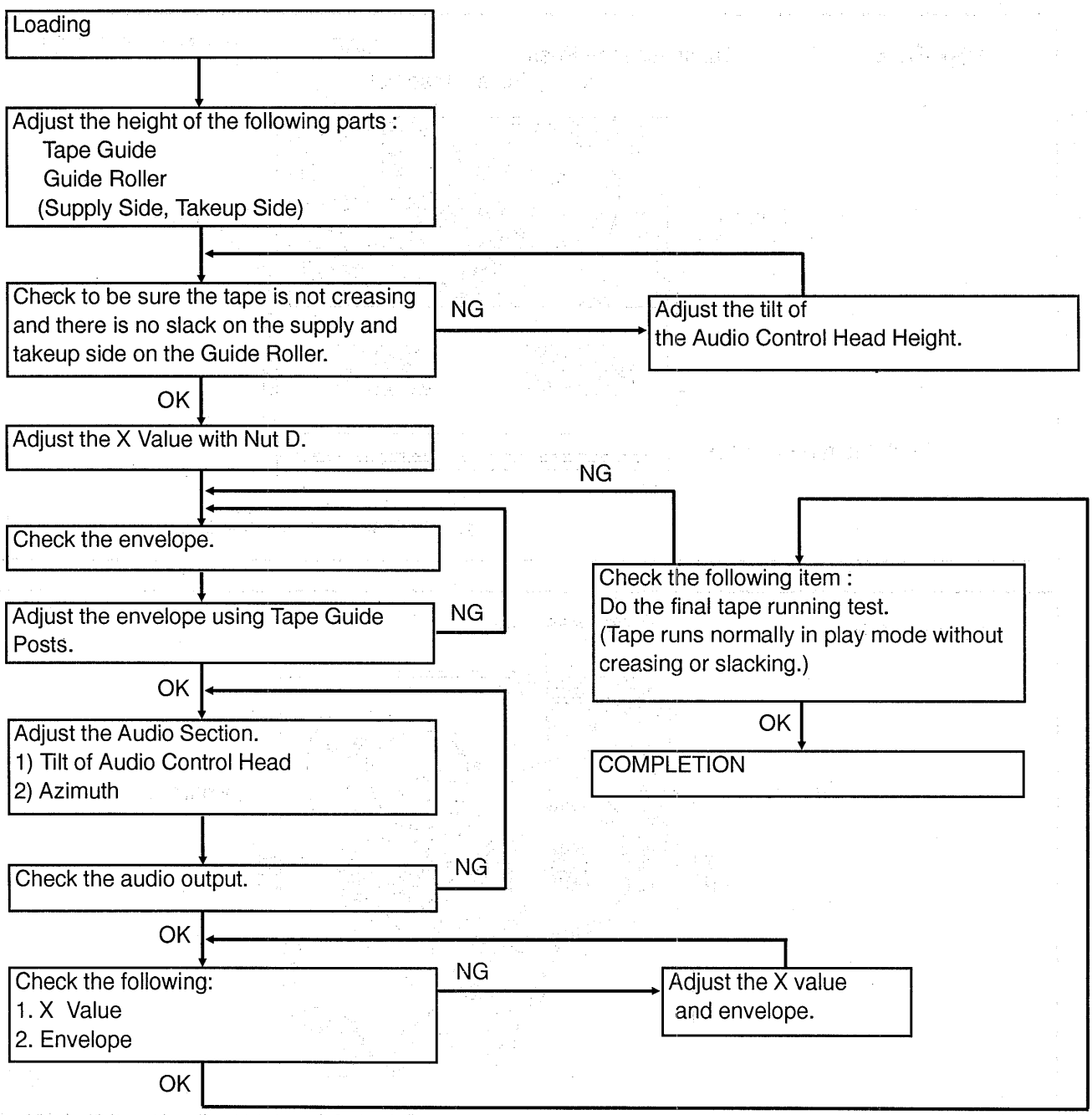
Note: To do these alignment procedures, be sure that the Tracking Control Circuit is set to the Neutral mode.

Equipment required :

Dual Trace Oscilloscope
VHS Alignment Tape (F6-A, F6-N)
Post Alignment Screwdriver
X-Position Alignment Fixture
Screwdriver (For the Tape Guide Rollers)
Box Driver M3

Note: After this Mechanical Alignment is completed, secure screw [C] shown in Fig.M6 with lock paint and do all the procedures in the Electrical Adjustment.

Tape Running Alignment Flowchart


Loading
Adjust the height of the following parts :
Tape Guide
Guide Roller
(Supply Side, Takeup Side)
Check to be sure the tape is not creasing and there is no slack on the supply and takeup side on the Guide Roller.
NG
Adjust the tilt of the Audio Control Head Height.
OK
Adjust the X Value with Nut D.
NG
Check the envelope.
Adjust the envelope using Tape Guide Posts.
NG
OK
Adjust the Audio Section.
1) Tilt of Audio Control Head
2) Azimuth
Check the audio output.
NG
OK
Check the following:
1. X Value
2. Envelope
NG
Adjust the X value and envelope.
OK
Check the following item :
Do the final tape running test.
(Tape runs normally in play mode without creasing or slacking.)
OK
COMPLETION

1-A. Preliminary Checking and Alignment of Tape Running

Purpose:

To make sure that the tape running is well stabilized.

Symptom of Misalignment:

If the tape runs with unstability, the tape will be damaged.

1. Play back a cassette tape and check that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig M3 and M4)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Post Adjustment Screwdriver. (Refer to Fig. M3 and M5)

   Note: Before turning the Guide Rollers, loosen the Lock Screw using a lock screwdriver.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

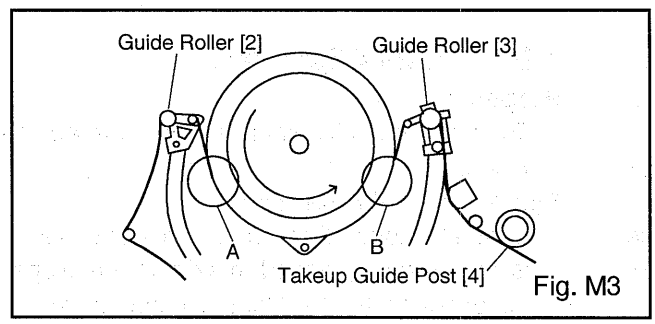


Fig. M3

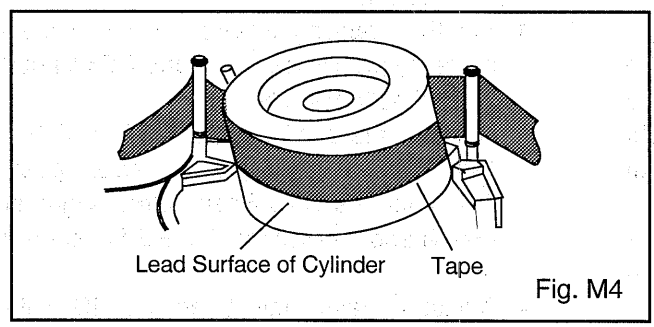


Fig. M4

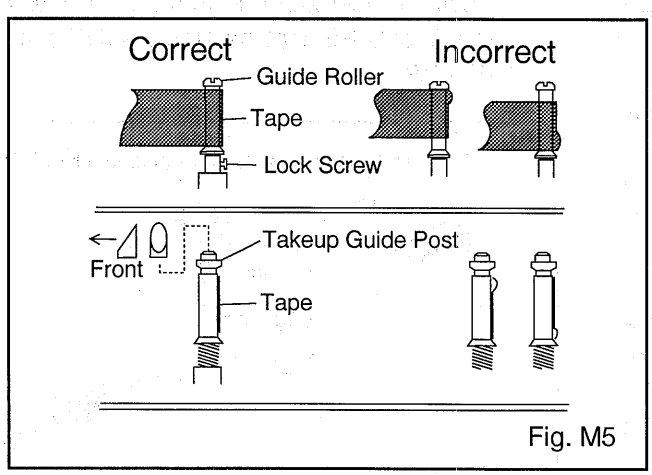


Fig. M5

1-B. Preliminary Checking of Audio/ Control Head Height

Purpose :

To make sure that the tape runs properly along the Control Head.

Symptom of Misalignment:

If the control signal is not properly picked up, proper Servo Operation cannot be achieved.

The head height adjustment is required when the Audio/Control Head is replaced.

For final alignment, do the adjustments described in 1-C and 1-D.

Note: Play back a cassette tape. Looking at the lower edge of the Control Head with the tape in motion, make sure that the lower edge of the tape runs 0.15~0.25mm above the lower edge of the Control Head. If it does not run properly, turn Height Adjustment Nut [A] slightly in either direction as necessary to correct it. Turn clockwise, as viewed from the top, to lower the head and counterclockwise to raise it. (Refer to Fig. M6 and M7.)

1-C. Preliminary Checking of Tilt of Audio/Control Head

Purpose:

To check that the tape running is well stabilized. In particular, check that the signals on the tape are properly picked up by the Audio Head at the upper part and by the Control Head at the lower part.

Symptom of Misalignment:

If the tilt of the Audio/Control Head is poorly aligned, the tape will eventually be damaged.

Play back a cassette tape and check that there is no tape slack between Takeup Guide Post [4] in Fig. M3 and the Audio/Control Head. If there is any slack, align the Audio/Control Head by turning tilt adjustment screw [C] in Fig. M6 so that the tape has no slack.

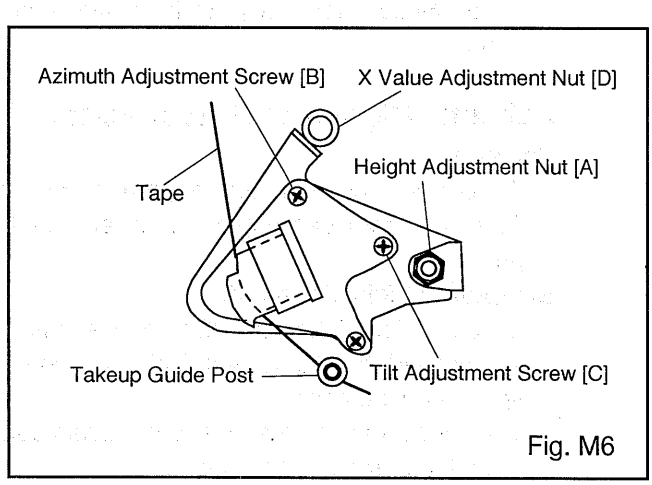


Fig. M6

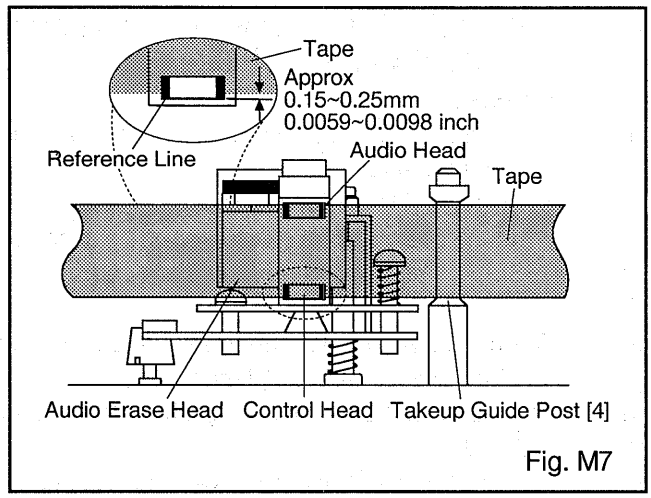


Fig. M7

1-D. Final Alignment of Audio/ Control Head Height

Purpose:

To align the position and height of the Audio/Control Head so that it meets the tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Check that there is no tape slack between the Takeup Guide Roller and the Audio/Control Head. If there is any tape slack, remove it by turning Tilt Adjustment screw [C]. Then realign the height of the Guide Rollers (Refer to 1-A).
3. Play back the Color Bar (1kHz, Audio) on the alignment tape (F6-A) and check that the audio signal output level is 1kHz. Finally, adjust Height Adjustment Nut [A] so that the output level is at maximum.(Fig. M6, Fig. M8[b])
4. Adjust Azimuth Adjustment Nut [B] so that the output level on the AC Voltmeter is at maximum.(Fig. M6)

Note: Secure screw [C] with lock paint after realignment.

Azimuth Alignment of Audio/Control Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control Head angle meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Play back the Gray Scale (6kHz, audio) on the alignment tape(F6-N), and adjust Height Adjustment Nut [A] so that the output level on the AC Voltmeter or the waveform of the oscilloscope is at maximum. (Fig. M6, Fig. M8[a])

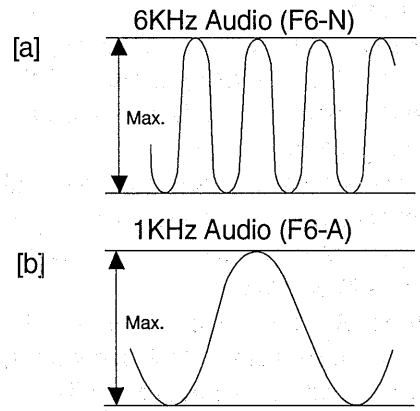


Fig. M8

1-E. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control Head is not properly aligned, maximum envelope cannot be obtained at the Neutral mode of the Tracking Control Circuit.

1. Set the Tracking Control Circuit to the Neutral mode by pressing CH UP and DOWN buttons on VCR simultaneously.
2. Connect the oscilloscope to TP of C-PB on the Main CBA. Use TP of RF-SW as a trigger.
3. Play back the Gray Scale of the Alignment Tape (F6-N) and confirm that the PB FM signal is present.
4. Adjust X Value adjustment Nut [D] with the X Position Adj-Fixture so that the PB FM signal at the TP of C-PB or at the TP of A-OUT is maximum. (Fig.M9)

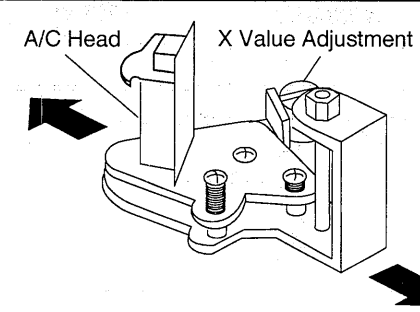


Fig. M9

1-F. Final Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control.

1. Set the Tracking Control Circuit to the Neutral mode by pressing both CH UP and DOWN buttons on VCR simultaneously.
2. Connect the oscilloscope to TP of C-PB on the Main CBA. Use TP of RF-SW as a trigger.
3. Play back the Gray Scale on the Alignment Tape (F6-N). Adjust the height of Guide Rollers [2] and [3] (Fig.M3) watching the oscilloscope display so that the envelope becomes as flat as possibile. If adjustment is required, turn the top of the Guide Roller with the Post Adjustment Screwdriver.
4. When the envelope is as shown in Fig. M10, adjust the height of Guide Roller [2] (Refer to Fig.M3) so that the waveform looks like the one shown in Fig. M12.
5. When the envelope is as shown in Fig. M11, adjust the height of Guide Roller [3] (Refer to Fig.M3) so that the waveform looks like the one shown in Fig. M12.
6. When Guide Rollers [2] and [3] (Refer to Fig.M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M12.

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig.M3), tighten the Lock Screws on these Guide Rollers [2] and [3], using a lock screw wrench. Then check the X VALUE by pushing the Tracking Control Up or Down buttons alternately, to check the symmetry of the envelope. If required, redo the "X VALUE ALIGNMENT." Secure screw [C] shown in Fig.M6 with lock paint.

Dropping envelope level at the beginning of track.

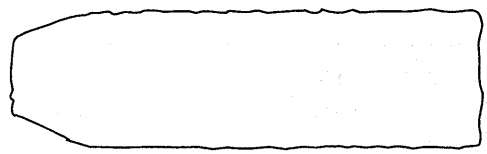


Fig. M10

Dropping envelope level at the end of track.

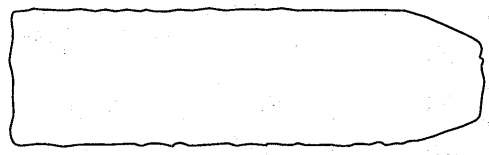


Fig. M11

Envelope is adjusted properly. (No envelope drop)

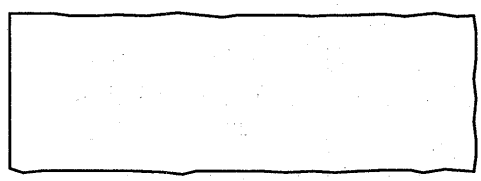


Fig. M12

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Main Mechanism

This procedure starts with the condition that the Cabinet Parts and Front Loading Assembly have been removed. (Refer to the Cabinet Disassembly Instructions of Section 1.) Also, all the following procedures for adjustment and parts replacement should be done in Stop mode. When reassembling, follow the steps in reverse order.

STEP /LOC. NO.	START -ING NO.	PART		REMOVAL		INSTALLATION
				FIG. NO.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Motor Holder Assembly	T	DM1 DM4 DM5	3(S-1), (P-7) Loading Belt	(+)
[2]	[1]	Loading Motor Assembly	T	DM1 MD3 DM4	2(S-2), CN2902	
[3]	[1]	Cassette Drive Lever Assembly	T	DM1 DM4		(+)
[4]	[1]	Pinch Roller Arm Assembly	T	DM1 DM4	(C-1) Pinch Roller Spring	
[5]	[1]	Pinch Arm Assembly	T	DM1 DM4		
[6]	[1]	Cam	T	DM1 DM4		(+) See Fig. DM4
[7]	[1]	Pulley Assembly	T	DM1 DM5	Loading Belt (W-1)	(+)
[8]	[8]	Joint CBA	T/B	DM1 DM2 DM3 DM6 DM7	(S-3), CN2801, CN2902, CL2902, CL2901	For Connecting, Refer to Connectors' Points
[9]	[9]	Head Amp CBA	T/B	DM1 DM2 DM3 DM7	(S-4), (S-14) CN02, CN03, CL02	For Connecting, Refer to Connectors' Points.
[10]	[8]	Mode SW CBA	B	DM2 DM7	*(L-1)	
[11]	[11]	Arm Idler Assembly	T	DM1 DM8	Clutch Bushing	
[12]	[12]	Clutch Assembly	B	DM2 DM8	(C-2), (W-2) Capstan Belt	
[13]	[9]	Capstan Motor Unit	B	DM2 DM9	3(S-5)	
[14]	[1]	M Lever Holder	T	DM1 DM10	(S-6)	
[15]	[1]	Kick Arm Holder	B	DM2 DM10		
[16]	[15]	Kick Arm	B	DM2 DM10	Bushing	
[17]	[17]	Mode Change Lever	T	DM1 DM11	*2(L-2)	(+)
[18]	[1]	Main Lever Assembly	T	DM1 DM12	*(L-3)	
[19]	[19]	Tape Guide Assembly	T	DM1 DM12	*(P-1), *(L-4)	See Fig. DM12
[20]	[20]	A/C Head Assembly	T	DM1 DM13	Nylon Nut, Head Height Adjustment Spring	See Fig. DM13
[21]	[21]	Tension Lever Sub Assembly	T	DM1 DM14	*(L-5)	
[22]	[21]	Band Brake Sub Assembly	T	DM1 DM14	(S-7), *(L-6)	
[23]	[17]	M Brake (S)	T	DM1 DM15	*(P-2), *(L-7)	When reassembling, hook the Spring after installation of Mode Change Lever.

STEP /LOC. NO.	START -ING NO.	PART		REMOVAL		INSTALLATION
				FIG. NO.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[24]	[17]	M Brake (S) Lever	T	DM1 DM15		
[25]	[17]	S Brake Arm	T	DM1 DM15	*(P-3)	When reassembling, hook the Spring after installation of Mode Change Lever.
[26]	[9]	M Brake (T) Assembly	T	DM1 DM15		
[27]	[17]	T Brake Arm Assembly	T	DM1 DM15	*(P-4)	When reassembling, hook the Spring after installation of Mode Change Lever
[28]	[17]	Reel Base Assemblies (S+T)	T	DM1 DM16	2 Poly Slider Washers	
[29]	[29]	Earth Brush Assembly	B	DM2 DM17 DM18	(S-8)	When reassembling, check that the brush is within 1 mm of center of shaft.
[30]	[9]	Cylinder Drum Assembly	T	DM1 DM17	3(S-9)	
[31]	[1]	Moving Guide Assembly	T	DM1 DM19		(+)
[32]	[1]	Moving Guide T Assembly	T	DM1 DM19		(+)
[33]	[33]	FE Head	T	DM1 DM19	(S-10)	
[34]	[34]	Main Prism	T	DM1 DM19	(S-11)	
[35]	[1]	Loading Arm M Assembly	B	DM2 DM20	(C-3)	(+)When installing, match the marks.
[36]	[1]	Loading Gear A	B	DM2 DM20		(+)
[37]	[1]	Loading Gear B	B	DM2 DM20		(+)
[38]	[38]	Rec Arm	B	DM2 DM21	(S-12),*(P-5)	
[39]	[38]	BT Drive Arm	B	DM2 DM21	(S-13), (P-6)	
[40]	[40]	Cleaning Head	T	DM1	(C-4)	
①	②	③	④	⑤	⑥	⑦

①: Order of steps in Procedure. When reassembling, follow the steps in reverse order.
These numbers are also used as the identification (Location) No. of parts in Figures.

②: The start No. followed by corresponding part to be removed at this stage. For example, Arm Idler Assembly [11] can be removed without removing any other parts. But BT Drive Arm [39] can be removed only after removing Rec Arm [38].

③: Parts to be removed or installed.

④: Location of part; T=Top, B=Bottom, R=Right, L=Left

⑤: Fig. No. shows Procedure or Part Location

⑥: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or desoldered.
S=Screw, W=Washer, C=Cut Washer, P=Spring, *=Unhook/Unlock/Release/Unplug/Desolder
2(C-2) = two Cut Washers(C-2), 2(L-2) = two Locking Tabs(L-2)

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication information.

Top View

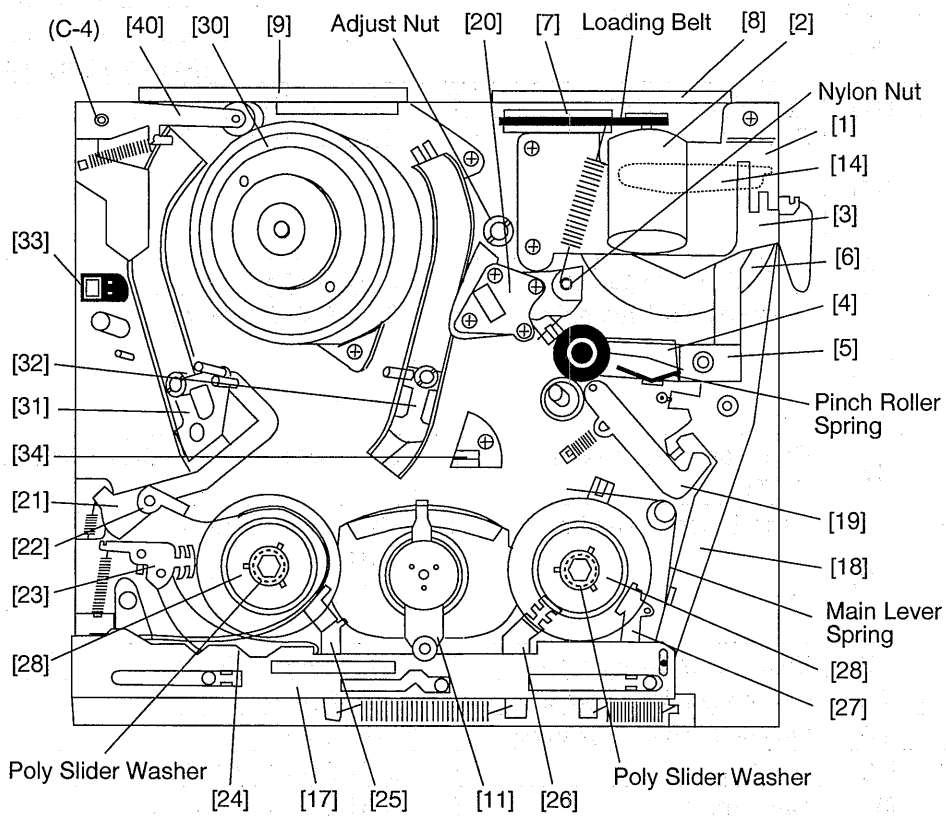


Fig. DM1

Bottom View

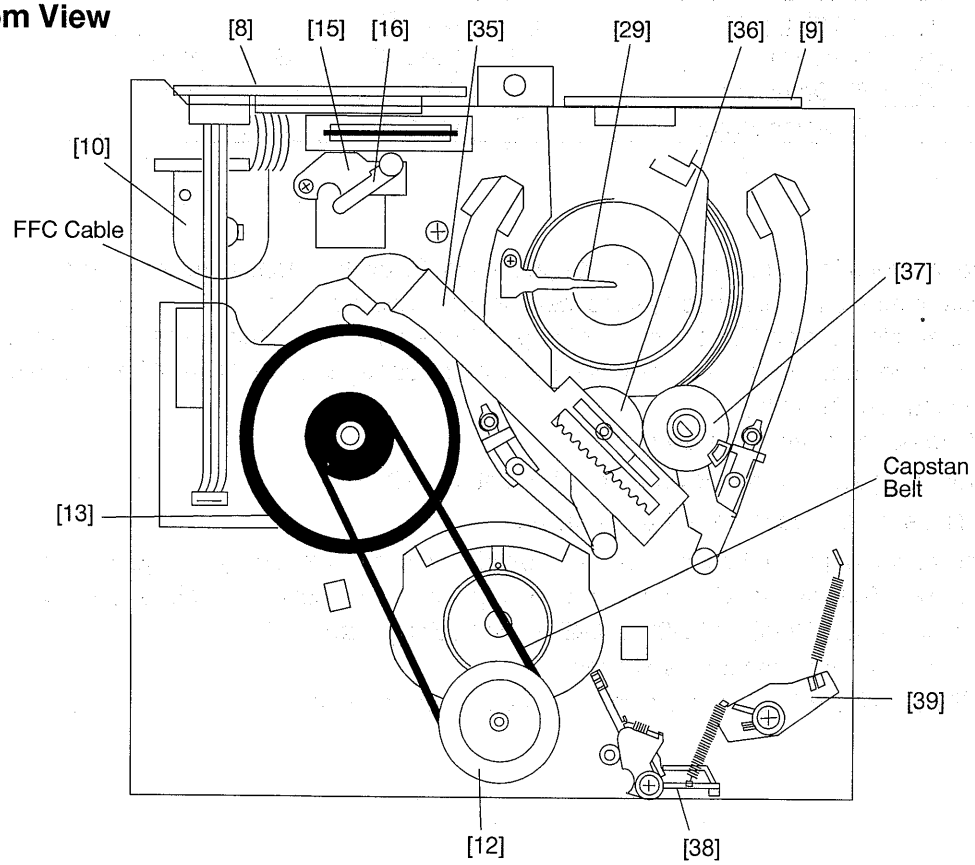
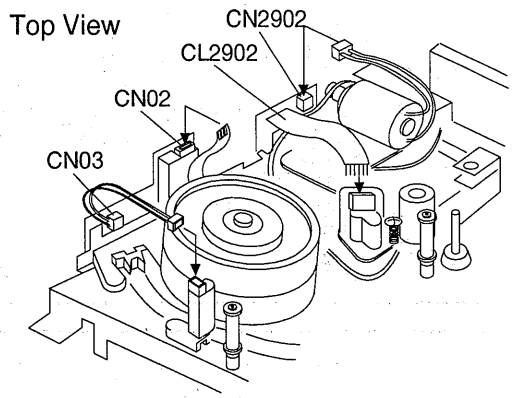


Fig. DM2

Deck Connectors

Note: Disconnect Connectors shown below before disassembling the Deck.

Top View



Bottom View

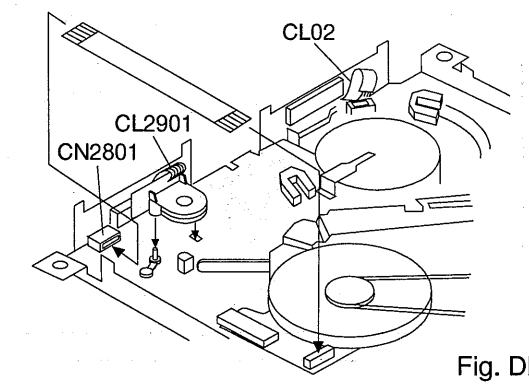


Fig. DM3

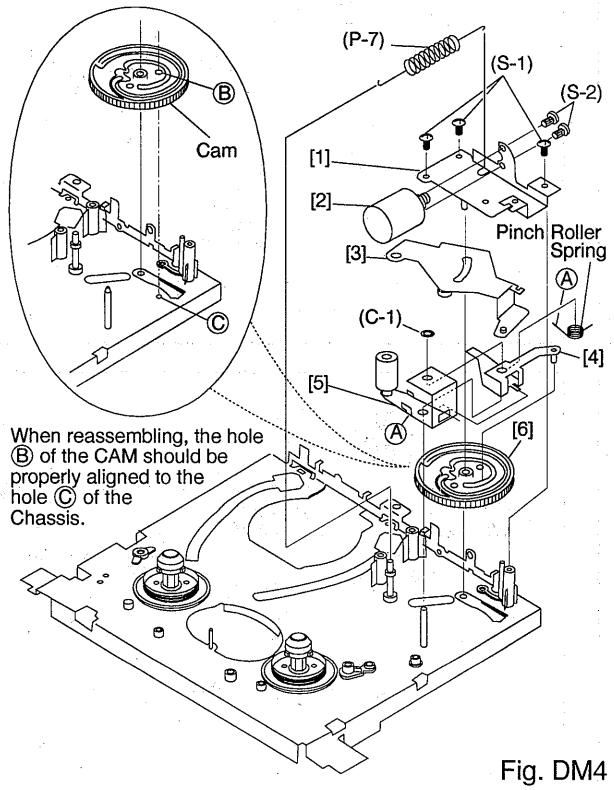


Fig. DM4

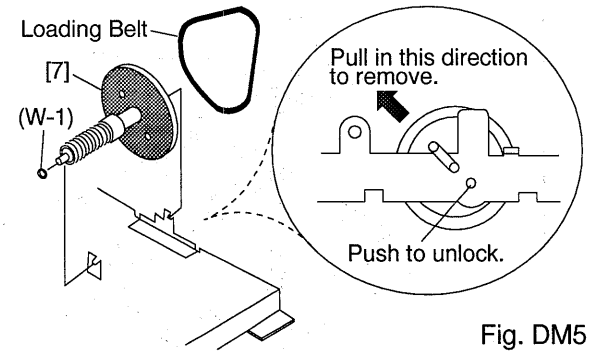


Fig. DM5

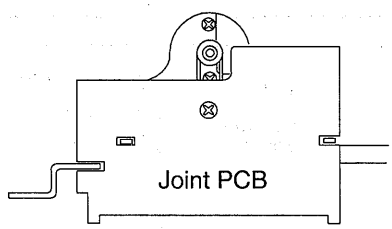


Fig. DM6

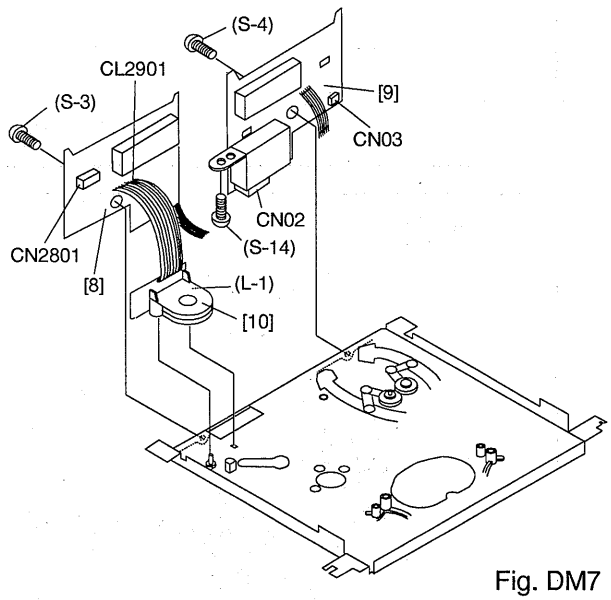


Fig. DM7

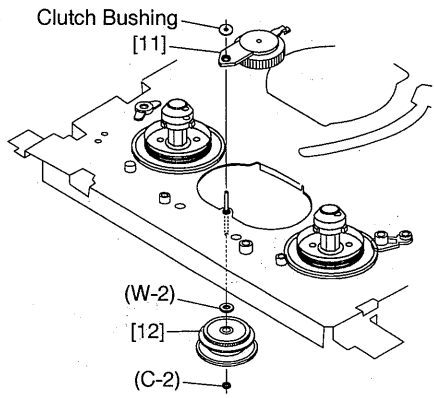


Fig. DM8

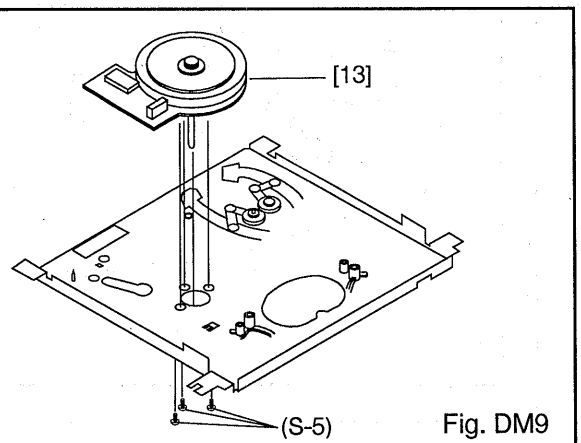


Fig. DM9

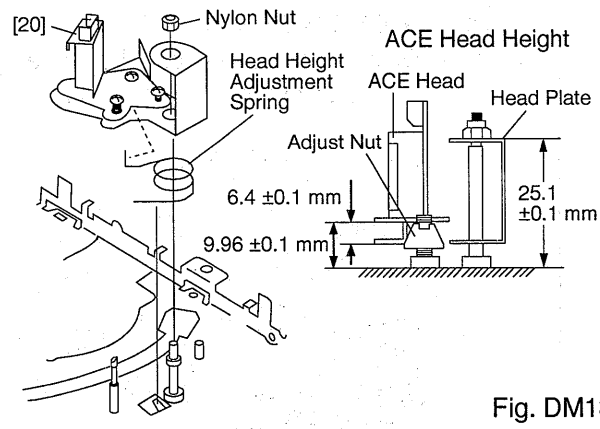


Fig. DM13

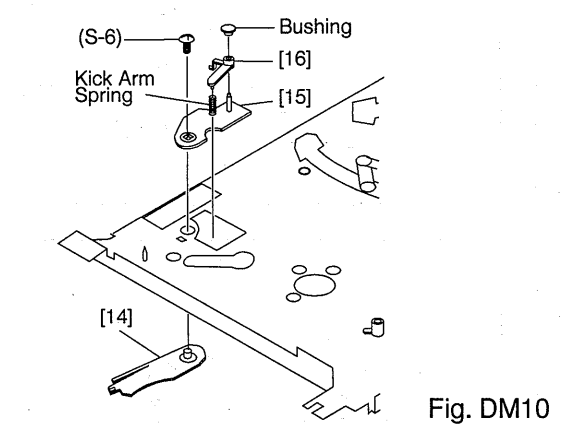


Fig. DM10

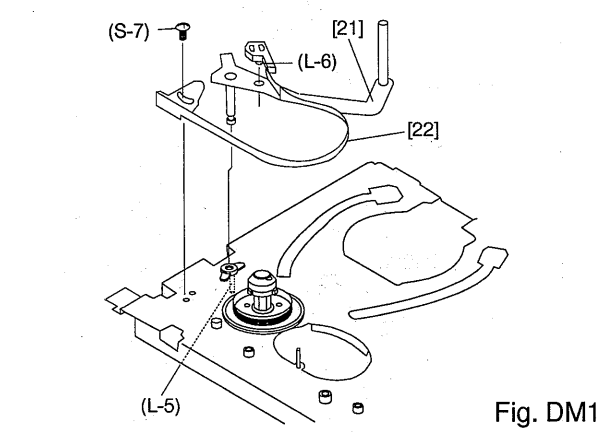


Fig. DM14

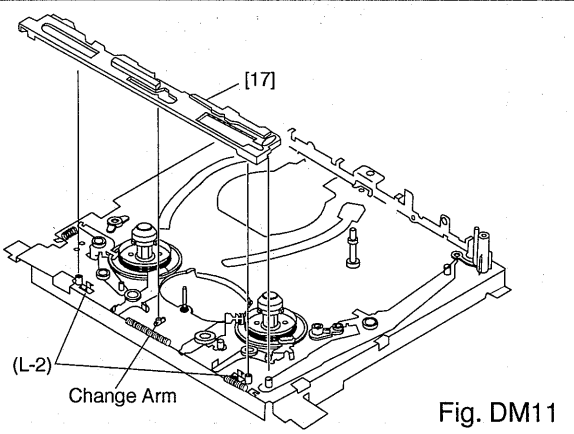


Fig. DM11

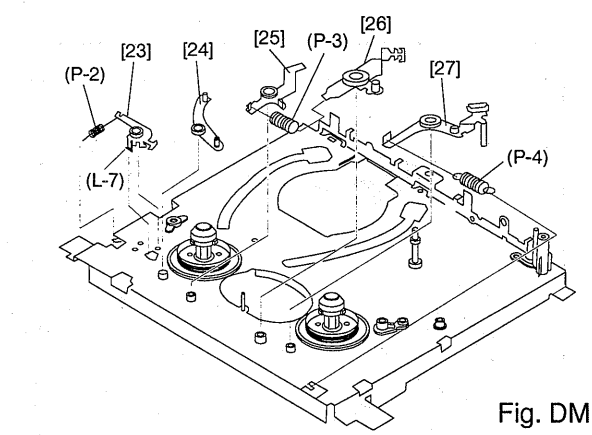


Fig. DM15

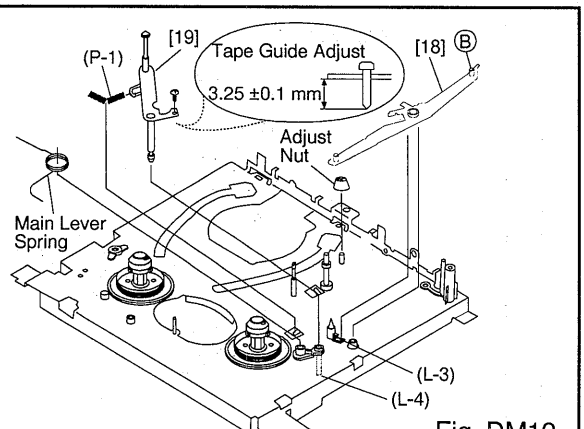


Fig. DM12

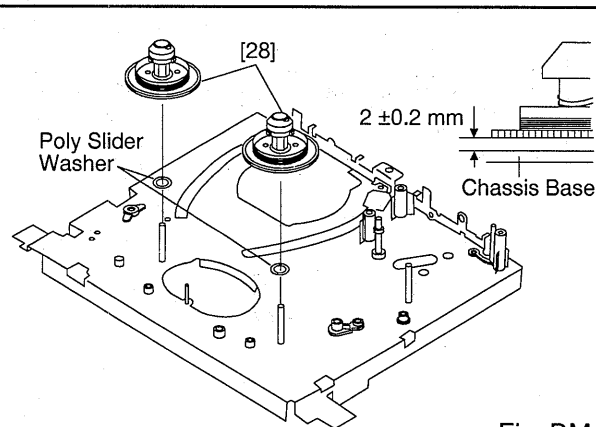


Fig. DM16

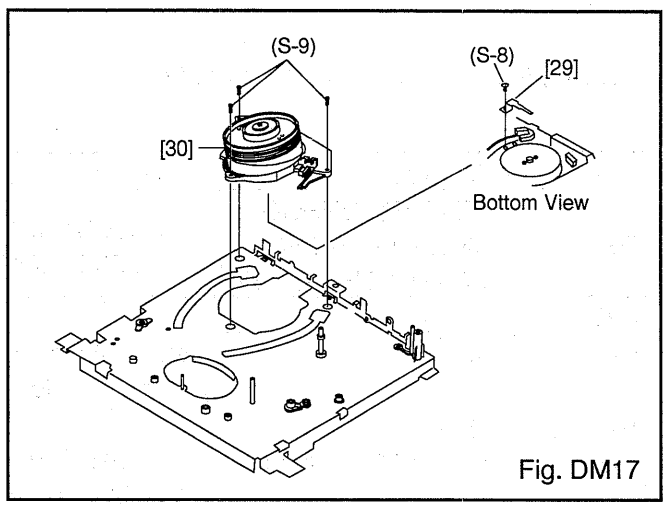


Fig. DM17

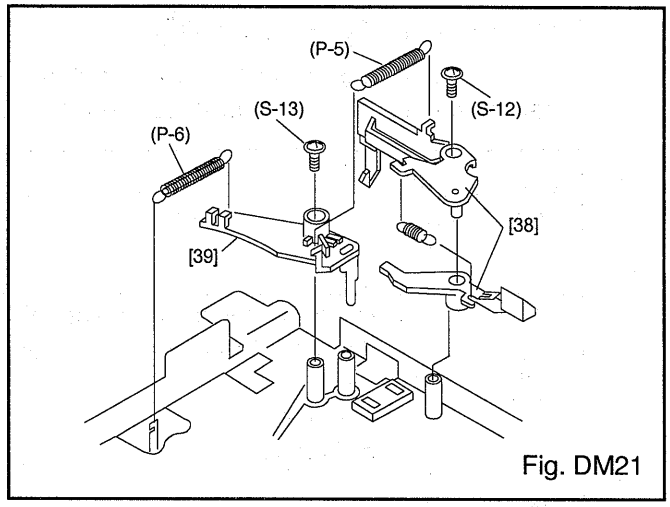


Fig. DM21

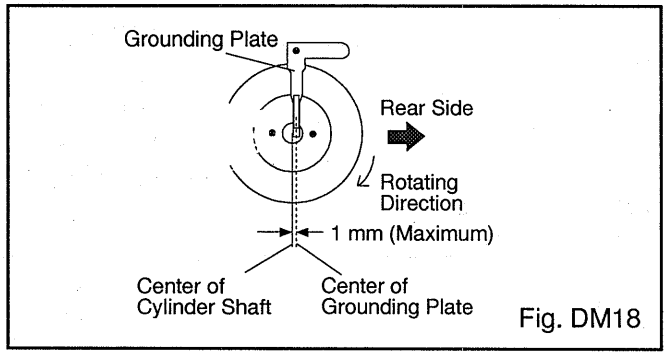


Fig. DM18

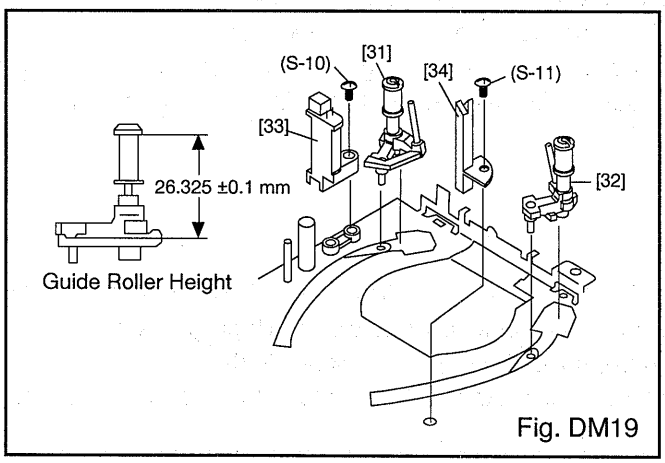


Fig. DM19

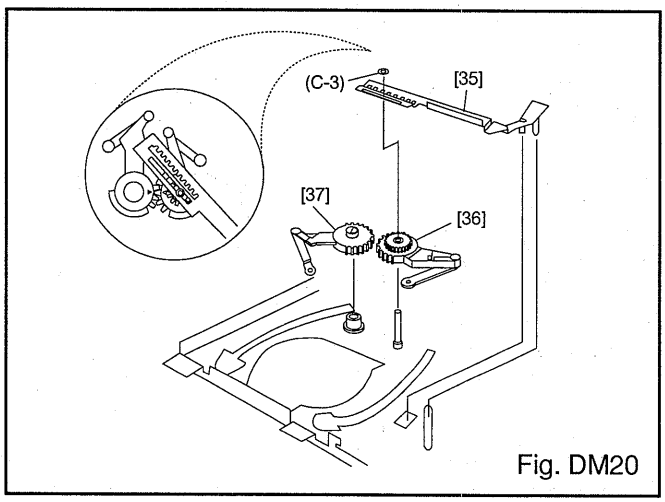


Fig. DM20

Front Loading Assembly

This procedure starts with the condition that the Front Loading Assembly has been removed from the chassis. When reassembling, follow the steps in reverse order.

STEP /LOC. NO.	START -ING NO.	PART		REMOVAL		INSTALLATION
				FIG. NO.	REMOVE *UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Drive Gear Reinforcement	R	DM22	(S-1)	
[2]	[1]	Cassette Drive Gear (R)	R	DM22	*(L-1)	Refer to the setting condition in Fig. DM22.
[3]	[3]	Prism (R)	R	DM22	*2(L-2)	
[4]	[4]	Door Opener	R	DM22	Door Opener Spring	When installing the Door Opener Spring, refer to the setting condition in Fig. DM22.
[5]	[1]	Rack Assembly	R	DM22		
[6]	[6]	Cassette Drive Gear (L)	L	DM23	*(L-3)	When installing, refer to the setting condition in Fig. DM23.
[7]	[7]	Prism (L)	L	DM23	*2(L-4)	
[8]	[8]	Cassette Holder Plate	T	DM24	*2(L-5)	
	↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥ ↓ ⑦

①: Order of steps in Procedure. When reassembling, follow the steps in reverse order.
These numbers are also used as the identification (Location) No. of parts in Figures.

②: The start No. followed by corresponding part to be removed at this stage. For example, Prism (R) [3] can be removed without removing any other parts. But Cassette Drive Gear (R) [2] can be removed only after removing Drive Gear Reinforcement [1].

③: Parts to be removed or installed.

④: Location of part; T=Top, B=Bottom, R=Right, L=Left

⑤: Fig. No. shows Procedure or Part Location

⑥: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook/Unlock/Release/Unplug/Desolder
2(C-2) = 2 Cut Washer(C-2), 2(L-2) = 2 Locking Clips(L-2), (N-1) = 1 Locking Pin(N-1)

⑦: Adjustment Information for Installation (+): Refer to Deck Exploded Views for lubrication information.

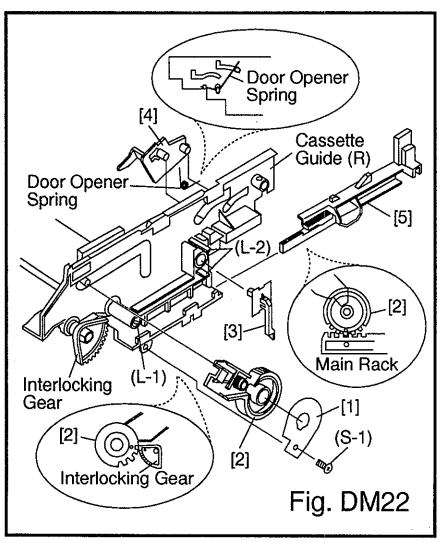


Fig. DM22

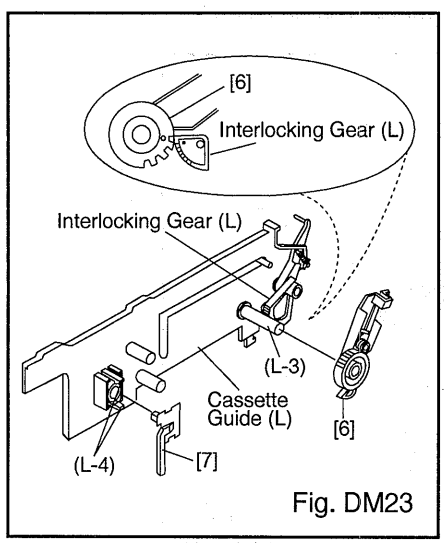


Fig. DM23

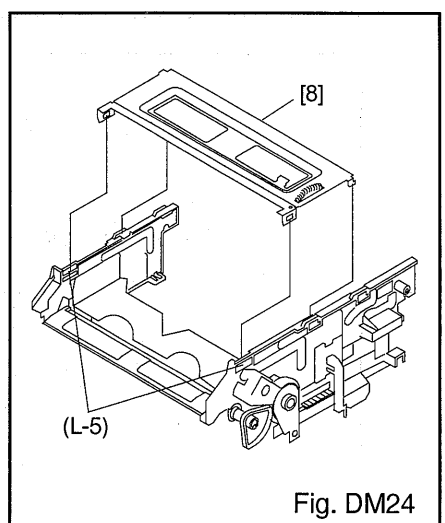
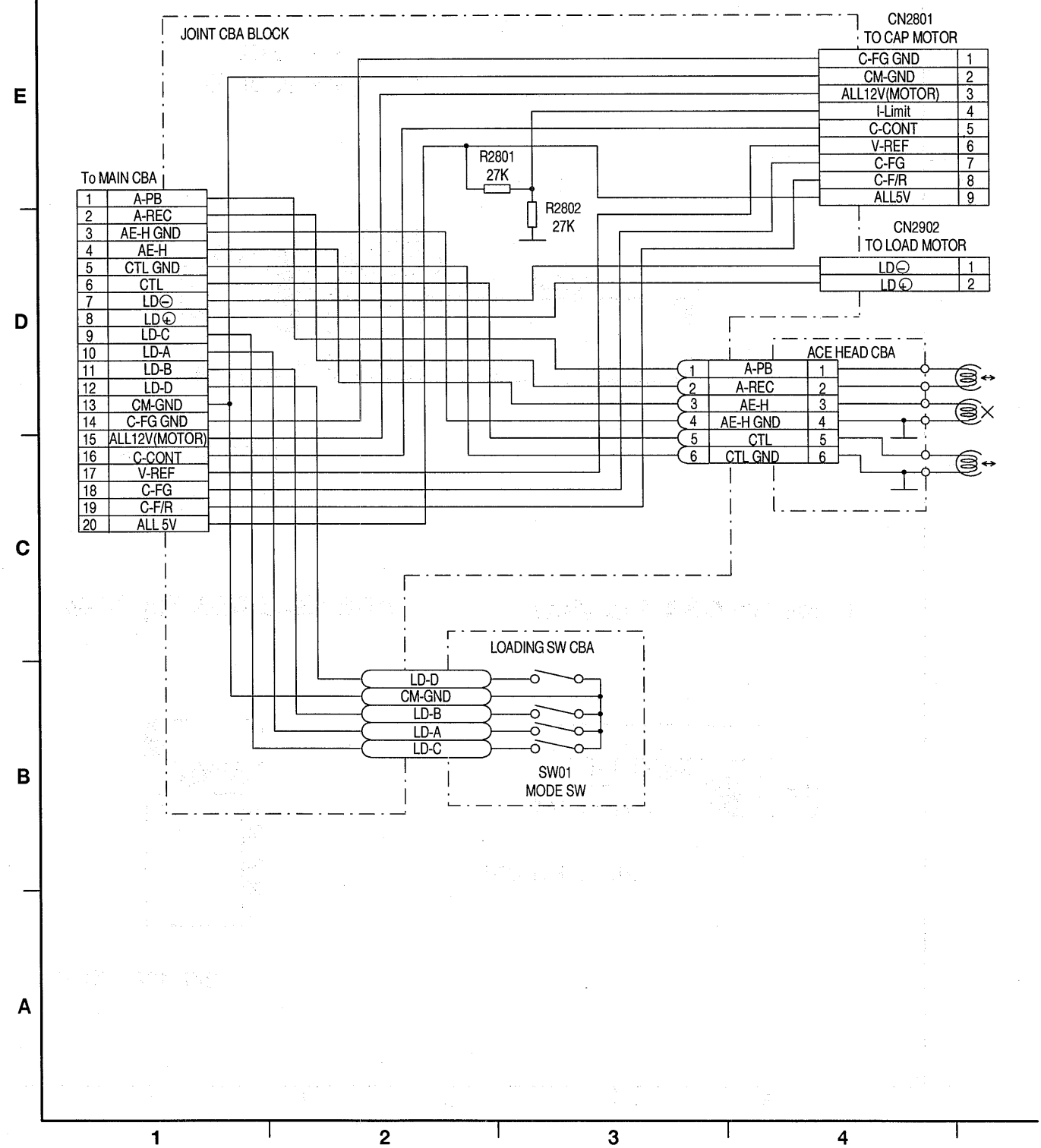


Fig. DM24

SCHEMATIC DIAGRAMS AND CBA'S

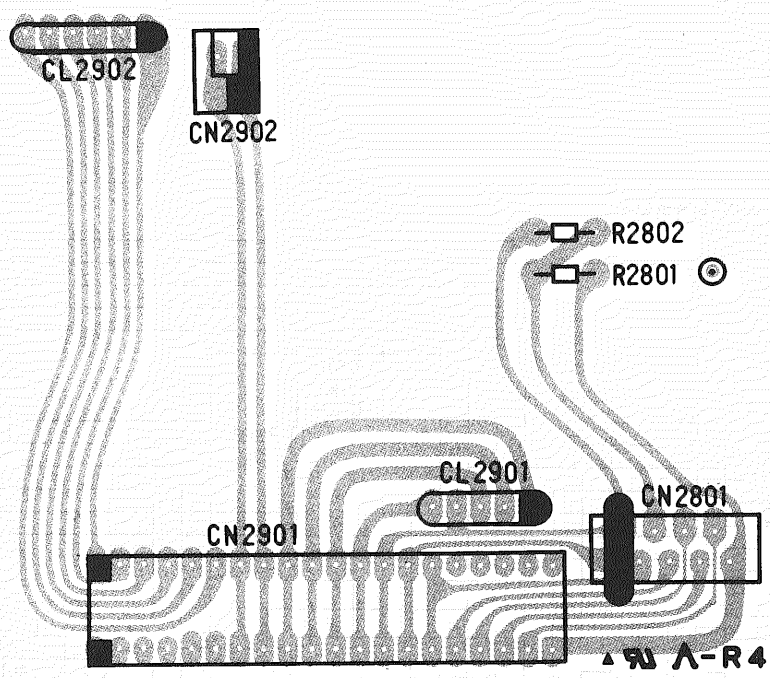
JOINT/MODE SW/ACE HEAD



F E D C B A

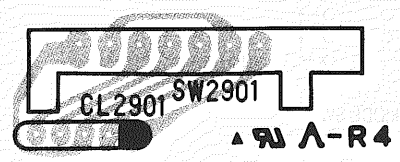
1 2 3 4

Joint CBA Top View



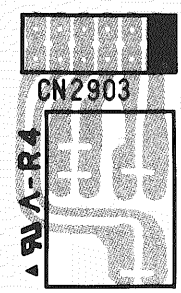
BK7010F01002-A

Mode Sw CBA Top View



BK7010F01002-B

ACE Head CBA Top View

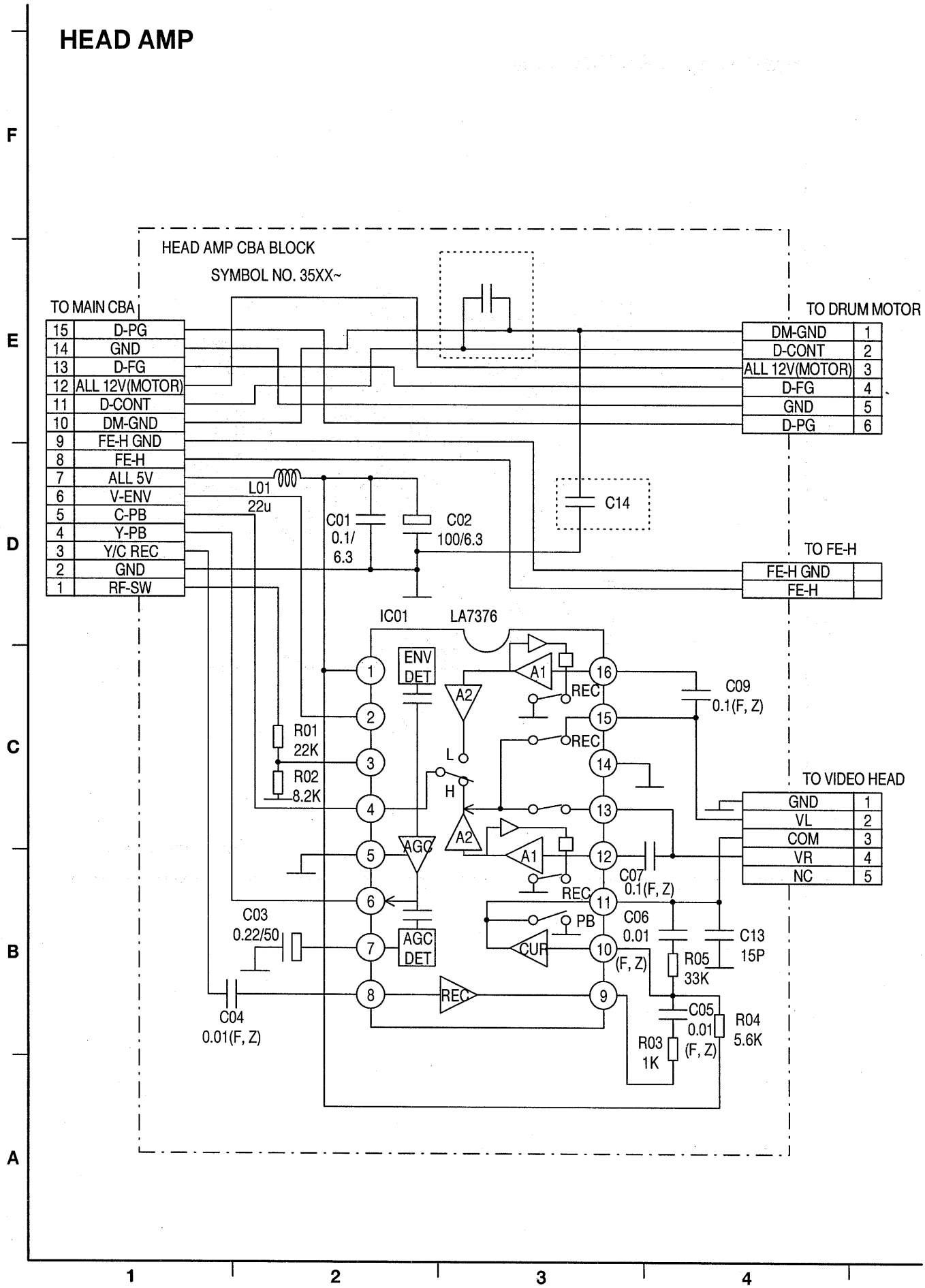


BK7010F01002-C

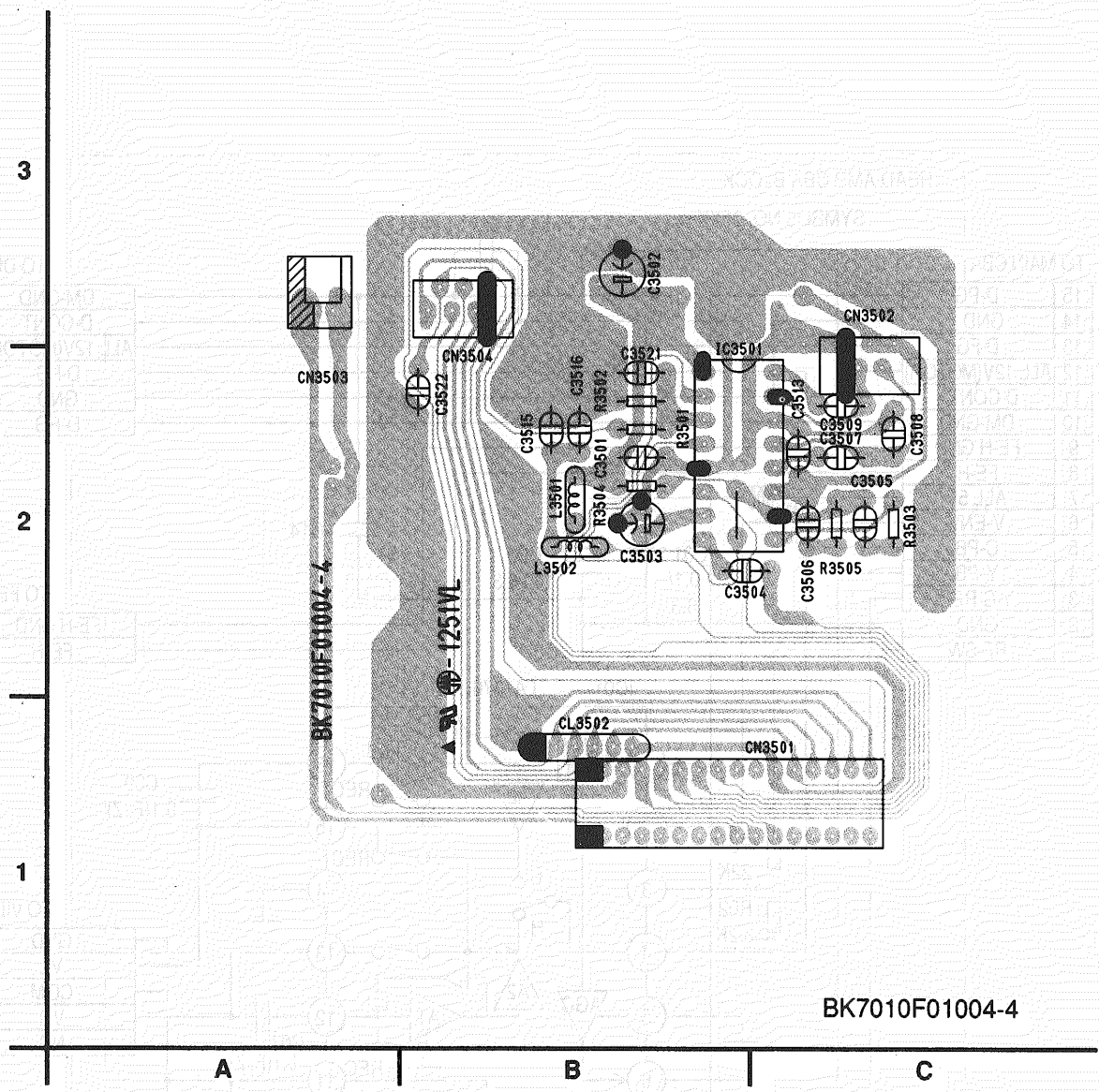
4 3 2 1

A B C

HEAD AMP


HEAD AMP CBA BLOCK
SYMBOL NO. 35XX~
TO MAIN CBA
15 D-PG
14 GND
13 D-FG
12 ALL 12V(MOTOR)
11 D-CONT
10 DM-GND
9 FE-H GND
8 FE-H
7 ALL 5V
6 V-ENV
5 C-PB
4 Y-PB
3 Y/C REC
2 GND
1 RF-SW
TO DRUM MOTOR
DM-GND 1
D-CONT 2
ALL 12V(MOTOR) 3
D-FG 4
GND 5
D-PG 6
TO FE-H
FE-H GND
FE-H
L01
22u
C01
0.1/
6.3
C02
100/6.3
C14
IC01
LA7376
ENV
DET
A1
A2
REC
C09
0.1(F, Z)
R01
22K
R02
8.2K
L
H
AGC
C07
0.1(F, Z)
PB
CUR
C06
0.01
(F, Z)
C13
15P
R05
33K
C03
0.22/50
AGC
DET
C04
0.01(F, Z)
C05
0.01
(F, Z)
R04
5.6K
R03
1K
TO VIDEO HEAD
GND 1
VL 2
COM 3
VR 4
NC 5

Head Amp CBA Top View

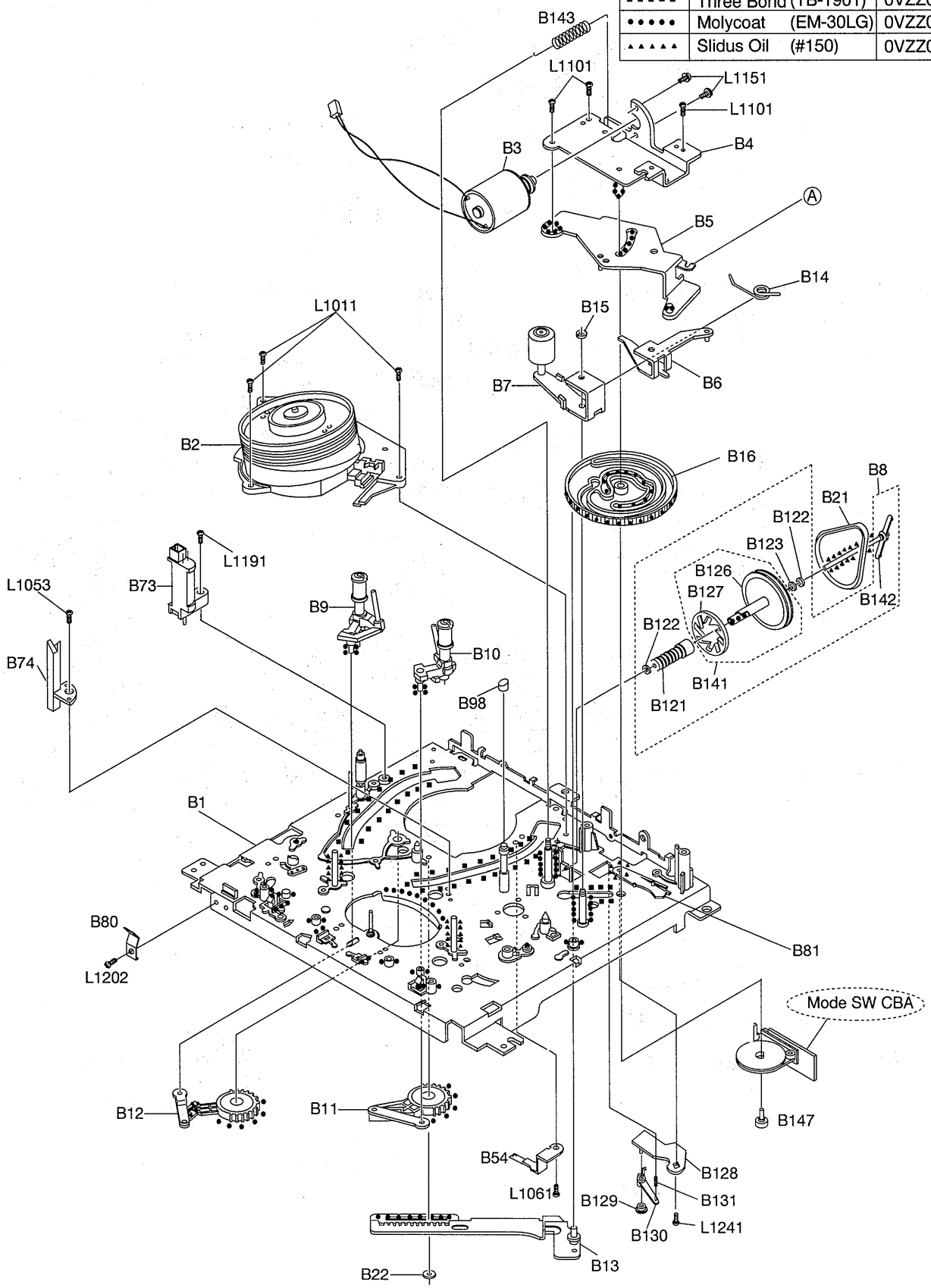


BK7010F01004-4

DECK EXPLODED VIEWS

View 1

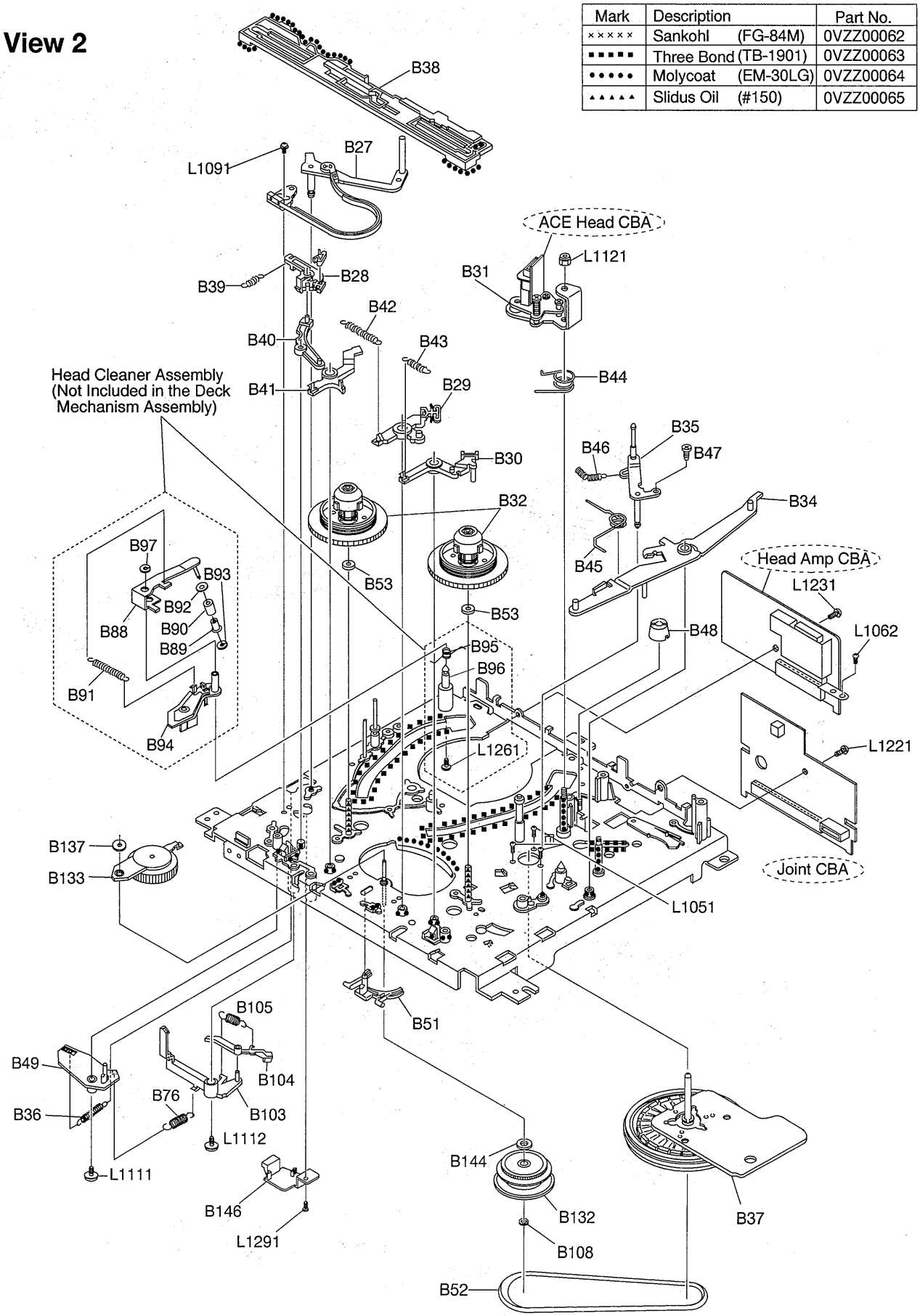
Mark	Description	Part No.
×××××	Sankohl (FG-84M)	0VZZ00062
▪▪▪▪▪	Three Bond (TB-1901)	0VZZ00063
●●●●●	Molycoat (EM-30LG)	0VZZ00064
▲▲▲▲▲	Slidus Oil (#150)	0VZZ00065



See the Deck Electrical Parts List.

View 2

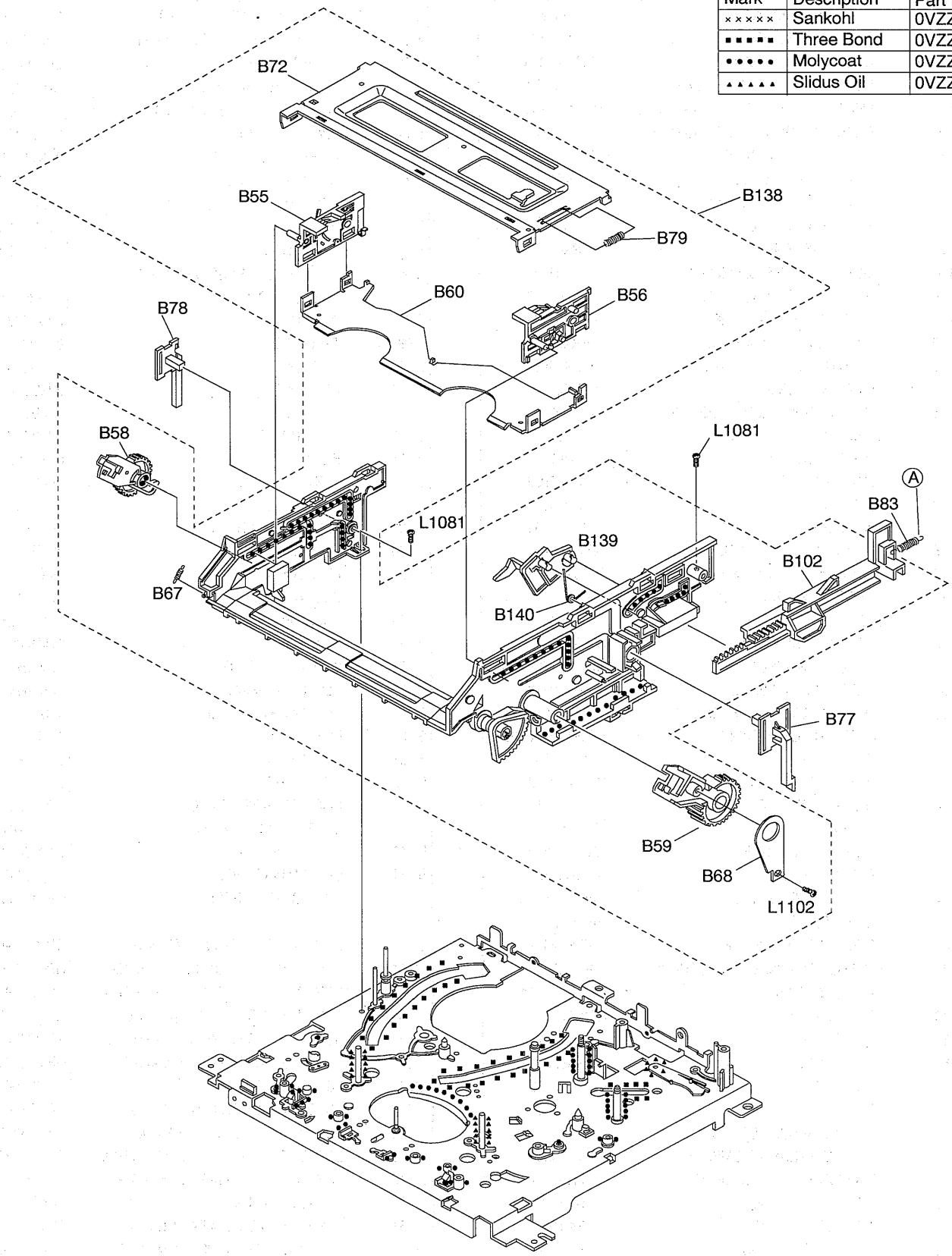
Mark	Description	Part No.
×××××	Sankohl (FG-84M)	0VZZ00062
■■■■■	Three Bond (TB-1901)	0VZZ00063
●●●●●	Molycoat (EM-30LG)	0VZZ00064
▲▲▲▲▲	Slidus Oil (#150)	0VZZ00065



See the Deck Electrical Parts List.

View 3

Mark	Description	Part No.
×××××	Sankohl	0VZZ00062
▪▪▪▪▪	Three Bond	0VZZ00063
●●●●●	Molycoat	0VZZ00064
▲▲▲▲▲	Slidus Oil	0VZZ00065



DECK MECHANICAL PARTS LIST

Ref. No.	Description	Part No.
B 1	CHASSIS ASSEMBLY	0VSA05627
B 2	CYLINDER ASSEMBLY	0VM301796
	CYLINDER ASSEMBLY	0VM201335
B 3	LOADING MOTOR ASSEMBLY	0VSA04781
B 4	MOTOR HOLDER CALKING ASSEMBLY	0VM403364
B 5	CASSETTE DRIVE LEVER ASSEMBLY	0VM403507I
B 6	PINCH ROLLER ARM ASSEMBLY	0VSA05848
B 7	PINCH ARM ASSEMBLY or	0VM402387
	PINCH ARM ASSEMBLY or	0VSA05924
	PINCH ARM ASSEMBLY	0VM402393
B 8	PULLEY ASSEMBLY	0VSA05505
B 9	MOVING GUIDE S ASSEMBLY	0VSA05722
B 10	MOVING GUIDE T ASSEMBLY	0VSA05723
B 11	LOADING ARM T ASSEMBLY	0VSA05503
B 12	LOADING ARM B ASSEMBLY	0VSA04215
B 13	LOADING ARM M ASSEMBLY	0VM404693
B 14	PINCH ROLLER SP	0VM403949
B 15	LUMIRROR WASHER 3.1X6X0.35	0VM403269
B 16	CAM	0VM100453
B 21	LOADING BELT or	0VM403432
	LOADING BELT	0VM403952
B 22	P.S.W(CUT)	0VM404679
B 27	BAND BRAKE ASSEMBLY	0VSA04658
B 28	MAIN BRAKE S ASSEMBLY	0VSA04212
B 29	MAIN BRAKE T ASSEMBLY	0VSA04213
B 30	T BRAKE ARM ASSEMBLY	0VSA04641
B 31	AC HEAD ASSEMBLY	0VSA04756
B 32	REEL BASE ASSEMBLY	0VSA04759
B 34	MAIN LEVER ASSEMBLY	0VM402558
B 35	TAPE GUIDE ASSEMBLY	0VM402560
B 36	TENSION LEVER SP ASSEMBLY	0VSA04550
B 37	CAPSTAN MOTOR F2QKB92	MMDDB5ZSJ002
B 38	MODE CHANGE LEVER	0VM201234G
B 39	M BRAKE(S)SPRING	0VM402579
B 40	M BRAKE(S)LEVER	0VM300753
B 41	S BREAKE ARM	0VM301759
B 42	M BRAKE T ARM SPRING	0VM402582
B 43	T BRAKE SPRING	0VM402580
B 44	HEAD ADJUST SPRING	0VM402567A
B 45	M LEVER SPRING	0VM402570
B 46	TAPE GUIDE ARM SPRING	0VM402581
B 47	TAPE GUIDE ARM ADJUST SCREW	0VM403242
B 48	ADJUST NUT (B)	0VM404678A
B 49	BT DRIVE ARM	0VM300756K
B 51	CHANGE ARM	0VM402441E
B 52	CAPSTAN BELT or	0VM402397
	CAPSTAN BELT	0VM403950
B 53	P.S.W B	0VM402625
B 54	GROUND BRUSH ASSEMBLY or	0VM404524
	GROUND BRUSH ASSEMBLY or	0VM404534
	GROUND BRUSH ASSEMBLY	0VM404827
B 55	C.SLIDER L ASSEMBLY	0VSA04487
B 56	C.SLIDER R ASSEMBLY	0VSA04488
B 58	C.D. GEAR L ASSEMBLY	0VSA04494
B 59	C.D. GEAR R ASSEMBLY	0VSA04495
B 60	CASSETTE PLATE	0VM301932

Ref. No.	Description	Part No.
B 67	FRONT DOOR OPENER SPRING	0VM403962
B 68	DRIVING GEAR REINFORCEMENT	0VM402961
B 72	UPPER PLATE	0VM201033
B 73	FE HEAD HVFHF0002A or	DHVEC01AL001
	FE HEAD VTR-1X2ERS11-109	DHVEC01TE001
B 74	LUMINESCENCE PRISM or	0VM301291C
	LUMINESCENCE PRISM(B)	0VM301764F
B 76	REC ARM SPRING	0VM402578
B 77	PRISM R	0VM301292
B 78	PRISM L	0VM301293D
B 79	EARTH SPRING	0VM403524E
B 80	SPRING FOR PRESSING PACK	0VM403674
B 81	M LEVER HOLDER	0VM301717
B 83	RACK SPRING	0VM403894
B 98	T,G CAP (2)	0VM404937
B 102	FL RACK	0VM201022J
B 103	REC ARM A	0VM301441H
B 104	REC ARM B	0VM301442G
B 105	REC SPRING	0VM403724
B 108	P.S.W F	0VM402629
B 121	WORM	0VM402429
B 122	P.S.W C	0VM402626
B 123	P.S.W (WORM THRUST)	0VM403348
B 126	PULLEY	0VM301718D
B 127	PULLEY FELT	0VM404952
B 128	KICK ARM HOLDER	0VM301716
B 129	PRESS FIT BUSH	0VM403652
B 130	KICK ARM	0VM404382
B 131	KICK ARM SPRING	0VM404424
B 132	CLUTCH ASSEMBLY	0VSA05509
B 133	ARM IDLER ASSEMBLY	0VSA05512
B 137	BUSH CLUTCH	0VM404513
B 138	FL ASSEMBLY	0VDM05358
B 139	DOOR OPENER	0VM300780H
B 140	DOOR OPENER SPRING	0VM402510
B 142	SHAFT LOCK ASSEMBLY	0VSA04642
B 143	GROUND SPRING	0VM404920A
B 144	CLUTCH WASHER MK2	0VM404428
B146	SPRING SUPPORTER	0VM405084
L1011	SCREW, C-TIGHT M3X9 PAN HEAD +	GPMC3090
L1051	SCREW, S-TIGHT M2.6X6 PAN HEAD +	GPMS9060
L1053	SCREW, S-TIGHT M2.6X6 PAN HEAD +	GPMS9060
L1061	SCREW, S- TIGHT M2.6 X 4PAN HEAD +	GPMS9040
L1062	SCREW, S- TIGHT M2.6 X 4PAN HEAD +	GPMS9040
L1081	SCREW,S-TIGHT BIND HEAD M3X6	GBMS3060
L1091	SCREW, S-TIGHT M3X6 CUP+	GCMS3060
L1101	SCREW, P-TIGHT BIND HEAD 3X8	GBMP3080
L1102	SCREW, P-TIGHT BIND HEAD 3X8	GBMP3080
L1111	SCREW, P-TIGHT WASHER HEAD M3X8	GCMP3080
L1112	SCREW, P-TIGHT WASHER HEAD M3X8	GCMP3080
L1121	HEXAGON NUT M3	NHMN030
L1151	SCREW, SEMS M3X4 PAN HEAD +	CPM33040
L1191	SCREW, P-TIGHT 2.6X10 PAN HEAD +	GPMP9100
L1202	SCREW, B-TIGHT M3X6 PAN HEAD +	GPMB3060
L1221	SCREW,SPECIAL K7010UA	0VM403688

DECK ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

GENERAL NOTE: "CBA" is an abbreviation for "Circuit Board Assembly".
NOTE: Parts that not assigned part numbers (————) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	F.....±1%	J.....±5%	M.....±20%	Z.....+80/-20%
D.....±0.5%	G.....±2%	K.....±10%	N.....±30%	

JOINT CBA

Ref. No.	Description	Part No.
	JOINT CBA (JOINT-A/B/C) Consists of the following:	0VSA05796
	JOINT (JOINT-A) BLOCK	————
	MODE SW. (JOINT-B) BLOCK	————
	ACE HEAD (JOINT-C) BLOCK	————

JOINT (JOINT-A) BLOCK

Ref. No.	Description	Part No.
	JOINT (JOINT-A) BLOCK Consists of the following:	————
	Connectors	
CN2801	FFC CONNECTOR BASE, TOP 9P or	JC2SJ09ERH0C
	FFC CONNECTOR BASE, TOP 9P or	1700915
	FFC CONNECTOR BASE, TOP 9P or	1700449
	FFC CONNECTOR BASE, TOP 9P or	1700515
	FFC CONNECTOR BASE, TOP 9P	1700986
CN2901	ANGLE SOCKET CONNECTOR, 20P	1770615
CN2902	ANGLE PIN HEADER, 2P	1740775
	Resistors	
R 2801	CARBON RES. 1/4W J 27K Ω or	RCX4JATZ0273
	CARBON RES. 1/6W J 27K Ω	132A273T
R 2802	CARBON RES. 1/4W J 27K Ω or	RCX4JATZ0273
	CARBON RES. 1/6W J 27K Ω	132A273T
	Miscellaneous	
CL2901	JUMPER WIRE, 5P	WX1K7010-003
CL2902	JUMPER WIRE, 6P	WX1K7010-001
	FFC CABLE, 9P	WX3909QZ4413

MODE SW. (JOINT-B) BLOCK

Ref. No.	Description	Part No.
	MODE SW. (JOINT-B) BLOCK Consists of the following:	————
SW2901	MODE SWITCH	SSR0104HD001

ACE HEAD (JOINT-C) BLOCK

Ref. No.	Description	Part No.
	ACE HEAD (JOINT-C) BLOCK Consists of the following:	————
CN2903	FLAT CABLE CONNECTOR 6P	JEHBJ06JE001

HEAD AMP (PRV) CBA

Ref. No.	Description	Part No.
	HEAD AMP (PRV) CBA Consists of the following:	0VSA05795
	Capacitors	
C 3501	CERAMIC CAP. F Z 0.1μF/50V	3F40104T
C 3502	ELECTROLYTIC CAP. 100μF/6.3V M	526R107S
C 3503	ELECTROLYTIC CAP. 0.22μF/50V M	526W224S
C 3504	CERAMIC CAP. Y M 0.01μF/16V or	3Y4D103T
	CERAMIC CAP. F Z 0.01μF/16V	1220842T
C 3505	CERAMIC CAP. Y M 0.01μF/16V or	3Y4D103T
	CERAMIC CAP. F Z 0.01μF/16V	1220842T
C 3506	CERAMIC CAP. Y M 0.01μF/16V or	3Y4D103T
	CERAMIC CAP. F Z 0.01μF/16V	1220842T
C 3507	CERAMIC CAP. F Z 0.1μF/50V	3F40104T
C 3509	CERAMIC CAP. F Z 0.1μF/50V	3F40104T
C 3513	CERAMIC CAP. SL J 15pF/50V	3S41150T
C 3521	CERAMIC CAP. B J 100pF/50V	3B41101T
C 3522	CERAMIC CAP. SL J 47pF/50V	3S41470T
	Connectors	
CN3501	ANGLE SOCKET CONNECTOR 15P	1770610
CN3502	FFC CONNECTOR BASE, SIDE 5P or	JC96J05ERC0C
	FFC CONNECTOR BASE, SIDE 5P	1700471
CN3503	CONNECTOR ASSEMBLY 2P	WX1K7010-007
	Coil	
L 3501	INDUCTOR 22UH-K-26T or	LLAXKDTKA220
	INDUCTOR 22UH-K-26T	LLAXKATTU220
	IC	
IC3501	IC, VIDEO H-AMP LA7376	QSBLA0SSY035
	Resistors	
R 3501	CARBON RES. 1/4W J 22K Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22K Ω	132A223T
R 3502	CARBON RES. 1/4W J 8.2K Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2K Ω	132A822T
R 3503	CARBON RES. 1/4W J 1K Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1K Ω	132A102T
R 3504	CARBON RES. 1/4W J 5.6K Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6K Ω	132A562T
R 3505	CARBON RES. 1/4W J 33K Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33K Ω	132A333T
	Miscellaneous	
2B 2	SHIELD, TOP	0VM301927
2B 3	SHIELD, BOTTOM	0VM301928
CL3502	JUMPER WIRE, 6P	WX1K7010-002

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